

Despite 9/11, securing disaster recovery funding is again a battle, business continuity execs say. **PAGE 7**



**OPINION:** CareGroup CIO John D. Halamka thinks electronic health records will cut costs – and save lives. **PAGE 25**

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RURAL SOURCING INC. EMPLOYEES Molly Marshall, Henry Torres and Leodia Williams were able to find IT jobs without having to head to more urban communities.

## HOME Grown

Some companies are finding cheaper IT talent not in Bangalore but in small-town America. By Julia King. **PAGE 45**

## Indiana Courts Delay, Revise IT Overhaul

State suspends payments to CA on \$93M rollout; vendor, project team propose changes

**BY MARC L. SONGINI**  
Management, usability and performance issues have delayed the implementation of a \$93 million software automation project for the Indiana state court system, leaving some of the state's individual courts unsure about how to proceed.

The problems have forced court officials to regroup and evaluate options for proceeding with the project. Prime contractor Computer Associates International Inc. and the state's project team are proposing

modifications to the core case management system and the replacement of a problematic financials module based on CA's former Masterpiece accounting package.

The project was launched in 2002, and the new system was slated to be ready for user acceptance testing late last year; parts of it were expected

to be up and running by now. The IT overhaul is being overseen by the Indiana Supreme Court Judicial Technology and Automation Committee, or JTAC.

Largely because of problems with the Masterpiece financial system that were discovered during testing late last year, the JTAC project team delayed the implementation for further study. In addition, the state has temporarily suspended payments to CA and laid off seven members of the JTAC team — deployment and support personnel who aren't

Indiana, page 16

### ONLINE

Read more about ERP on our Web site: QuickLink k2000

## Legal Threat Stops Flaw Info Release

Sybase action spurs debate on disclosures

**BY JAIKUMAR VIJAYAN**  
Sybase Inc. last week threatened to sue a U.K.-based security research firm if it publicly discloses the details of eight holes it found in Sybase's database software last year — a move that is evoking sharp criticism from some IT managers but sympathetic comments from others.

Blocking the release of vulnerability information "would set a bad precedent" for the software industry, said Tim Powers, senior network administrator at Southwire Co., a Carrollton, Ga.-based maker of electrical wires and cables.

Sybase Threat, page 16

## Novell Users Eye Linux for Kernel Swap

Mixed OS offering prompts varied plans

**BY CAROL SLIWA**  
SALT LAKE CITY

Two weeks after Novell Inc. released software that lets users run its stack of computing services on either the NetWare or Linux kernel, members of the NetWare faithful cited widely varying plans for migrating their servers to Linux.

Some attendees at the software vendor's BrainShare user conference here said they're in no rush to move to SUSE Linux, the distribution of the open-source operating system that Novell acquired in January 2004. But others are starting to dabble with Linux, and some are eager to take the plunge right away.

"Once Novell was behind [Linux], it was an easy decision," said Roger Fenner,

NetWare, page 61

### MORE INSIDE

CEO Jack Messman says Novell's Linux and "identity-driven computing" strategies will help it win back users who defected to Windows. **PAGE 61**

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## One Site Fits All

**In the Technology section:** IT professionals like Fidelity's Thomas S. Tullis say that making Web sites accessible for people with disabilities can translate into increased revenues and demonstrate a commitment to the community. **Page 29**

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## ONLINE

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### Computerworld Developers Survey

**DEVELOPMENT:** We find that C++ beats out Java as the preferred programming language, while Linux, wireless and 64-bit application development plans are limited. **QuickLink 53305**

### Stay Marketable

**CAREERS:** Even if you're not looking to change jobs, keeping yourself on the radar of executive recruiters can pay off when your situation changes. Korn/Ferry International's Katie Tucker suggests ways to maintain contacts and stay visible. **QuickLink 52888**

### Service Provider Revival?

**STORAGE:** Once scorned, storage service providers may be on their way back, says SNW Online columnist Randy Kerns. **QuickLink 53302**

### Take Care When Merging Wired, Wireless LANs

**SECURITY:** Combining LAN architectures may promise an economical way to secure and manage two vastly different infrastructures, but companies need to do their homework first. **QuickLink 52978**

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## AT DEADLINE

### DHL Starts Work on \$160M IT Project

Delivery and logistics company DHL Worldwide Express is launching a \$160 million automation and integration project at three of its U.S. package-sorting hubs. The company said the effort will improve its processing operations and tracking capabilities for letters and packages across its U.S. network. The system should be fully operational by the fall of 2006, said DHL.

### MCI to Extend Qwest Discussions

MCI Inc.'s board of directors has agreed to continue discussions with Qwest Communications International Inc. about its proposal to buy MCI. The board continued the talks after Verizon Communications Inc., Qwest's rival for MCI, let it do so. MCI agreed to be acquired by Verizon for about \$6.7 billion last month. Qwest's latest bid for MCI is \$8.5 billion.

### Toshiba Ordered to Pay Lexar \$465M

A jury in California has ruled that Toshiba Corp. and a U.S. subsidiary must pay \$465.4 million in damages to Lexar Media Inc. for breach of fiduciary duty and theft of trade secrets and for punitive damages. Lexar sued Toshiba in 2002 for allegedly using its partnership to gain access to Lexar's business plans and technology while simultaneously working with Lexar rival SanDisk Corp.

### Banks Must Notify On Data Theft

The Federal Reserve Board has issued new rules requiring banks and other financial institutions to notify consumers "as soon as possible" after their personal data has been stolen. The rules require notification when personal information has been stolen or illegally accessed and there is reason to believe it will be misused.

# Users Unfazed By Oracle's Retek Deal

**\$630M acquisition still fills a void in its product line**

BY MARC L. SONGINI

ORACLE CORP., still working to digest its recent acquisition of former ERP rival PeopleSoft Inc., now faces the prospect of merging with retail software maker Retek Inc.

Oracle's \$630 million offer last week beat out SAP AG's offer by \$14 million in a bidding war for Minneapolis-based Retek. Oracle officials say the company intends to use the Retek acquisition to establish itself quickly in the retail applications business.

Oracle users interviewed last week expressed few concerns about the deal.

Fred Pond, director of information services at Schnitzer Steel Industries Inc. in Portland, Ore., expressed some un-

ease that the Retek purchase has "to be stressing" for Oracle, but he concluded that "I don't really have any opinion other than it shows that Oracle continues to be the king of mergers and acquisitions."

Schnitzer uses J.D. Edwards & Co. applications that Oracle gained in the PeopleSoft deal.

### Rounding Out Retail

While short on details about plans for the merger, a Retek spokesman said that there is very little overlap in the product lines of the two companies and that Oracle is looking to exploit the retail specialist's expertise. "This really is filling a void for Oracle," he said.

Oracle officials wouldn't comment last week, but in a March 8 letter to the Retek board of directors, Oracle CEO Larry Ellison contended that 80% of Retek customers run Oracle software. He also said that Oracle has "already put extensive thought into our

integration and joint product road map," and that "Retek's existing products will simply become part of the Oracle E-Business Suite."

SAP officials downplayed Oracle's victory in the battle for Retek. In a statement ceding Retek to Oracle, CEO Henning Kagermann said that his company has 2,400 customers in the retail industry and can thus "meet any competitive chal-

lenge in this market segment."

Despite the fact that Retek twice endorsed acquisition bids from SAP in the past month, the Retek spokesman said users shouldn't be surprised by the result. "We're the type of organization joined at the hip with our clients, and [we] have made them fully aware of what's been going on," he said.

Gary Riley, another user of Oracle's J.D. Edwards software, was upbeat about the Retek deal.

Riley, business systems analyst at Palmer, Alaska-based Matanuska Telephone Association Inc., said he has found that the challenges around the PeopleSoft merger are energizing Oracle. The Retek buyout is another "key component" to help the company succeed, he said.

Overall, the PeopleSoft merger is moving along well, Riley added. "As customers, we just need to be heard, and Oracle is opening up those lines of communication for us all to be better served," he said.

The Retek spokesman said he expects a road map for the Retek products to be available over the next few weeks from Oracle. **CS 53401**

### ACQUISITION DETAILS

#### Oracle Buys Retek

THE PRICE: \$630 million

WHAT IT MEANS: Oracle gains access to Retek's retail-oriented supply chain, merchandising and demand planning applications.

ORACLE INHERITS: 200-plus customers in 20 countries and 525 employees

RETEK'S 2004 REVENUE: \$174 million

## New Unicenter GM Expects Some Product Consolidation

BY MATT HAMBLIN

Computer Associates International Inc. last week said that Alan Nugent, who has been working as chief technology officer at Novell Inc., will become senior vice president and general manager of its Unicenter software business unit on April 8. Nugent disclosed earlier this month that he was leaving Novell to take another job, but he didn't identify his new employer [QuickLink 53251]. At CA, Nugent will oversee the company's largest product unit. He spoke last week with Computerworld about his planned job change.

**Why move, and why now?** I had been talking to CA for a couple of months. CA has a lot of the

pieces for management software in-house, and it's a great opportunity to get back into a line [of business] job again. My move had nothing to do with Novell. They'll do fine.

John Swainson, CA's new CEO, has talked about the need to consolidate hundreds of products and possibly eliminate some. What's your view on that? At a philosophical level, it makes sense. We'll rather quickly assess the totality of the product suites and make decisions about what works well and what doesn't. I can't give any specifics about numbers, but the idea is there are a lot of products, so it seems logical that consolidation would be one of the first things to do.



Q&A

**Do you foresee making any changes to the Unicenter unit's staff?** I don't know them well enough yet.

**Do you think the concept of on-demand computing, or automatic computing, is catching on?** On-demand is the "marketecture" word for it. But it's fair to say that at one point, we're going to see IT environments that behave like some of the vendors are describing. There are initiatives that position a company to be more agile with systems. But until you really get to what I'd call "the ability at runtime to modify the behavior of the infrastructure," you won't be at on-demand. That doesn't exist today.

**Does management software cost**

**too much?** I don't want to sound jocular, but I'd say it doesn't cost too much if it solves the problems the customers face. Anything we buy is overpriced if it doesn't do what we want. Price is something to be looked at — I'm about value.

**Do you think last year's departure of former CA CEO Sanjay Kumar and related problems are still on the minds of customers?** Sanjay's departure doesn't bother me, or I wouldn't be [going] there. I would hope that's in the past and it's time to move on to greener pastures. **CS 53402**

### MORE OF NUGENT'S VIEWS

An expanded version of our interview with Alan Nugent can be found on our Web site:

QuickLink 53395  
www.computerworld.com

## IT Execs Must Fight for Disaster Recovery Money

Funding business continuity programs can be 'a constant battle,' planners say

BY LUCAS MEARIAN  
NEW YORK

Business continuity managers said at a conference here last week that they're fighting to keep the budgetary ground gained in the aftermath of the 9/11 attacks in order to ensure that disaster recovery sites remain staffed and online.

"I think the biggest challenge is always money. That's a constant battle," said Dennis Sparrow, data center director at the New York Board of Trade. "I think every company does it. Once things have settled down, we get complacent."

About a half-dozen other attendees at the 2005 Business Continuity and Corporate Security Conference agreed with Sparrow, saying that their jobs often require them to act as facilitators in bringing together different business operations behind a common goal: data security and availability.

"Business continuity budgets are not getting the respect a lot of folks in this town would like to see," said Larry Tabb, an analyst at The Tabb Group, a Westboro, Mass.-based consulting and market research firm that tracks financial services IT issues.

### Explaining the Need

Roseann McSorley, director of business continuity management at Deutsche Bank Americas in New York, said that every two to three months, she has to go before an executive committee and detail her systems requirements and projected costs.

"I'm saying, 'I don't generate any revenue, but I need some money,'" said McSorley, who is also chairperson of Contingency Planning Exchange Inc., a New York-based professional association. "I shouldn't be sitting there alone."

McSorley has begun involving her company's technology executives in the meetings to help her explain to the com-

mittee why the bank needs to spend money on business continuity and why contingency planning must be part of the negotiating process on acquisitions or outsourcing deals.

"9/11 was three years ago now, and the attention has waned," said Adam Skupienski Jr., a project manager in the business continuation group at Prudential Financial in Newark, N.J. Because of that, Skupienski said, just keeping end users alert to disaster recovery plans is a challenge.

Until the Sept. 11, 2001, terrorist attacks, the New York Board of Trade's data center

and trading floor were both located in a building on the World Trade Center site that was destroyed when the neighboring twin towers collapsed. Now its data center and trading floor are in separate locations within New York, Sparrow said.

Steven Henne, vice president of business continuity at The Bank of New York Inc., said the bank expects by the fourth quarter to complete a project to consolidate three production data centers into one and move the centralized facility about 800 miles away from the contingency site.

The plan is unusual in that the New York-based bank's primary data center will now be in Memphis, while the con-

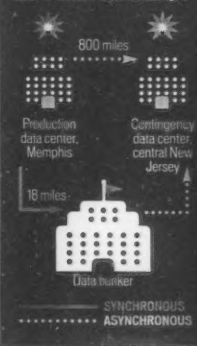
tingency site will be in central New Jersey. Henne said one of the biggest roadblocks is configuring applications to handle latency of 30 to 60 seconds while data is being replicated to the backup site.

Bank of New York will use software from EMC Corp. to synchronously replicate data to a secondary "data bunker" about 18 miles from its primary data center while asynchronously replicating information updates to the disaster recovery facility.

Maintaining data consistency throughout the replication process, and finding any potential points of failure, is a must, Henne said. "The biggest challenge right now is testing everything," he said. **53386**

### Memphis Connection

The Bank of New York is consolidating three production data centers into one and will replicate data both synchronously and asynchronously between sites to ensure data security.



## Virtualization Creates Need For More-Resilient Servers

BY PATRICK THIBODEAU

As IT managers virtualize their x86 servers and consolidate applications on a smaller number of systems, they're demanding more from the hardware they buy: more memory, certainly, but also added high-availability features such as multiple power supplies and cabling ports.

Some businesses have even gone a step further. Purdue Pharma LP last year started buying Stratus Technologies Inc.'s fault-tolerant servers, similar to those used by financial services companies and 911 emergency call centers, to run Microsoft Corp.'s Active Directory and other applications in a virtual environment.

That was the drug maker's first foray into fault-tolerant servers, and it came after the Stamford, Conn.-based company decided to use VMware Inc.'s virtual server technology, said Stephen Rayda, director of architecture at Purdue.

Rayda said last week that he didn't want Purdue's IT administrators to have to answer

the following question if the virtualized system failed: "When they lose 30 servers on a single box, they're going to get asked, 'What could we have done to avoid this?'"

Andres Carvallo, CIO at Austin Energy in Texas, said he's buying fewer servers now and focusing his budget for Intel-based machines on systems "with higher capacity and more fault-tolerant-type features." He embarked on an 18-month project last year to reduce his server count from about 250 systems to 80, largely through virtualization.

Christopher Kowalsky, CIO at Education Management

**When they lose 30 servers on a single box, they're going to get asked, 'What could we have done to avoid this?'**

STEPHEN RAYDA, DIRECTOR OF ARCHITECTURE, PURDUE PHARMA LP

Corp., a Pittsburgh-based company that operates a variety of academic institutions with a total of about 66,000 students, is evaluating VMware's software and Microsoft's rival Virtual Server offering. "We're the same as most organizations," he said. "We have a lot of servers and a lot of processors, and we're continuing to try to figure out how to best utilize them."

But Kowalsky added that if his company does adopt virtualization technology, he will run the software on fault-tolerant, highly resilient systems that are capable of failing over to another box. Having servers with high-availability features is "going to be a big part" of any move to virtualization, he said.

### Impact on Server Sales?

Although virtualization and grid computing technologies can increase server utilization and reduce the need for new boxes, worldwide revenue from server sales grew 5.5% last year, according to IDC. Analyst Stephen Josselyn said he doesn't think virtualization will hurt server revenues.

Virtualization is more about better utilization of resources, Josselyn said, adding that he

expects users to continue to scale out their system installations more than they scale up single systems.

But Gartner Inc. has a different take. In a report presented at its data center conference in December, Gartner said higher processor utilization rates could "dramatically reduce server hardware and administrative spending."

Users typically cite ease of management, reduced support needs and associated staffing savings as the top benefits that virtualization can provide, not server cost reductions. But even if some of the hardware that users are buying for virtualized environments is more expensive than what they used to purchase, the fact remains that they're buying fewer servers than before.

"We're developing a love-hate relationship with our hardware vendor," said Alex Cruz, who is an e-mail, Web and VMware administrator at Dean Health System Inc. in Madison, Wis. Dean Health uses IBM's eServer BladeCenter hardware, and IBM "loves the fact that we are buying blades, but obviously it has cut down on our overall cost of servers that we're purchasing," Cruz said. **53406**



## BRIEFS

## IAC Buys Ask Jeeves In \$1.85M Stock Deal

Media conglomerate IAC/InterActiveCorp has agreed to buy search and portal Web site operator Ask Jeeves Inc. in a stock deal valued at about \$1.85 billion. IAC Chairman and CEO Barry Diller said Ask Jeeves has "the potential to become one of the great brands on the Internet." Ask Jeeves will remain an independent unit led by current CEO Steve Berkowitz.

## Time Warner, SEC Settle for \$300M

Time Warner Inc. has agreed to pay \$300 million in penalties to settle with the U.S. Securities and Exchange Commission over charges of securities fraud related to its accounting for online advertising revenue. Time Warner consented to the settlement without admitting to or denying the SEC allegations. The fine is among the largest ever levied by the SEC.

## Mozilla Issues Fix For Firefox Flaw

The Mozilla Foundation has issued a fix for a previously undisclosed hole in its Firefox Web browser. The foundation is encouraging Firefox users to download the software update as soon as possible. Firefox 1.0.2 is said to fix a buffer overflow vulnerability in a Firefox feature for processing GIF image files. The security update is the second one issued for Firefox in less than a month.

## Sun Open-Source Advocate Departs

After six years as Sun Microsystems Inc.'s most visible presence in the open-source community, Danese Cooper has left Sun to work on open-source projects at Intel Corp. Cooper had been a longtime proponent of open-source software within Sun and is credited with steering the company toward opening up its source code.

## ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL



## J.D. Power to Bestow IT Service ...

... and support certifications starting this fall. That means you'll be able to get some insight as to whether the cool software you want to buy has a hot IT help desk standing behind it. The deal between J.D. Power and Associates in Westlake Village, Calif., and the Service & Support Professionals Association was the



WOOD: IT needs insight into service quality.

big buzz at an SSPA conference in San Diego last week. And for good reason. The certifications could change IT service and support forever. According to Jonathan Brookner, a director at J.D. Power, "Typically, every industry evaluated by J.D. Power has directly or indirectly raised the overall customer satisfaction level of the industry." When all else is equal, a company with the J.D. Power stamp of approval for IT service is more likely to get a buyer's blessing than an uncertified rival is, argues Bob Furniss, president of Touchpoint Associates Inc., a service and support consultancy in Bartlett, Tenn. But, he adds, the certification could be "a double-edged sword" to companies that get one because "it raises the bar

for the entire company, not just the service and support organization." J.B. Wood, CEO of the San Diego-based SSPA, agrees. "We believe it could lead to better-quality IT products," he says. Now that's something users can really cheer about.

The SSPA is creating the certification criteria with J.D. Power's help and expects to finalize them by August. The first certifications may be awarded as soon as late September. Only companies that meet 80% or more of the criteria will get certified, and the evaluation process will involve customer surveys and on-site audits of a company's service and support centers. If a vendor uses outsourcers

2,700+

IT service centers run by SSPA members

in the U.S. or abroad, at least one of every external partner's help centers will be visited and judged by J.D. Power auditors. The help desk sites to be audited will be chosen at random by J.D. Power. Wood believes CIOs will use the J.D. Power certifications as part of their product evaluations. "You can demo a product before you buy it, but you can't demo service and support," he says. Now, maybe, you can.

## Forget about tiered service models ...

... in the future. Today, when most users call a vendor with a product problem, they start at the bottom tier of the service and support structure — automated self-service systems or, at best, a barely minimum-wage wannabe techie reading scripts off a computer screen. To solve a complex problem, you typically have to wade through layers of relative ignorance until you reach the tier that has your answer. Collaborative service and support tools could soon flatten that layered structure, suggests John Cray, vice president of products at Apropos Technology Inc. in Oakbrook Terrace, Ill. His company is working on such improvements to its namesake service and support application. Cray says that today's tiered approach is necessary because you can't fill a room with Tier 3 and 4 technicians, who are paid "vastly more" than Levels 1 and 2. But he claims that with collaboration technology, a Tier 1 support representative could request help on a question from a pool of experts and immediately pass along an answer to the user — thereby "improving first-call resolution and customer

satisfaction." But don't expect Tier 4 help from Tier 1 folks this year. "It's not easy to condense the tiers," Cray says.

## Plumtree plots portal popularity ...

... with new analysis tool. How many apps are running on your portal? How many are being used? By whom? And how often? Don't know, do you? But Plumtree Software Inc. is betting you want to know. That's why the San Francisco-based company today is releasing its new Plumtree Analytics Server, which provides usage stats on



DUNNING: Learn the value of the software you use.


every application that's running on your Plumtree portal. With the analytics software, Plumtree customers will be able to "understand how the technology is being used," says Andrew Dunning, the vendor's director of product marketing. For example, Analytics Server can chart which software features are popular with end users and which ones are being avoided, by user type, department or other filters. That can be a huge benefit in designing applications, Dunning claims. You can even use the tool to gather real-time data on an app's usage. And Dunning thinks CIOs can use Analytics Server's hard data to support or rebuff budget requests for development work. Pricing for the analytics offering is based on usage and will average about \$30,000 per site, he estimates. "Every company that sells software should provide some kind of reporting capability to demonstrate the value of the technology," Dunning says. Don't hold your breath. How many vendors want you to learn that their tools are never used?

53367



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# Registry Demand Grows

## Users look for tools to manage proliferation of Web services

BY HEATHER HAVENSTEIN

Companies that have successfully deployed Web services for point-to-point integration projects are now eyeing emerging tools that let developers and other users easily reuse the services.

Several vendors are ramping up work on updating registry products — typically centralized metadata describing the location of services and policies governing their use — as users look for tools to rein in their growing stables of Web services.

Systinet Corp. this summer plans to release a next-generation registry product, code-

named Blue Sky, that will provide a role-based console for developers, business analysts and managers to access registry information, said Dave Butler, vice president of marketing at the Burlington, Mass.-based company.

The new product will also include an interoperability framework for linking registries with Web services management products offered by other vendors, he said.

The Hartford Financial Services Group Inc. uses the current version of Systinet's registry to describe the locations of Web services. The services support a legacy system that allows independent agents to submit forms and other documents, said James McGovern, enterprise architect at Hartford Financial.

From there, the Hartford, Conn.-based company plans to

seek out newer technologies that can register reusable portals — interfaces to its portal — that partners could access and add to their own sites.

For its part, Cupertino, Calif.-based Infravio Inc. in

the second quarter plans to roll out Version 5.0 of its X-Registry technology. It will add support for Version 3 of the Universal Description, Discovery and Integration (UDDI) standard, which was approved by the Organization for the Advancement of Structured Information Standards consortium last month, said Miko Matsumura, Infravio's vice president of marketing.

The Infravio product line focuses on contracts between providers and consumers of services that set service-level requirements, governance policies and accounting mechanisms like billing and metering for services, he said.

Providence Health Systems, which operates 17 hospitals in Alaska, California, Oregon and Washington, uses Infravio's X-Registry to provide a centralized way for developers to find existing Web services and add them to new applications.

Michael Reagin, director of IT research and development

at Seattle-based Providence, described the registry as the company's Google for its Web services infrastructure.

"Developers using Visual Studio or an integrated development environment can quickly switch to a portal that displays a list of all the Web services we have built," he said.

Providence is working on plans to expand its use of registries as the company begins to expose its Web services to other health care organizations, Reagin added.

The growing interest in registry technology isn't surprising to analysts. "You can't reuse services if you don't know what services exist," said Anne Thomas Manes, an analyst at Burton Group in Midvale, Utah.

The idea of registries, commonly built on UDDI, surfaced with the arrival of Web services standards several years ago. But UDDI was originally associated with the doomed notion of business-to-business marketplaces for buyers to "discover" suppliers of various commodity goods.

Demand for registry technology has begun to build critical mass as companies have expanded their use of Web services, agreed Ron Schmelter, an analyst at ZapThink LLC in Waltham, Mass.

"People are starting to realize that they have to have something to organize these services," he said. ☎ 53405

### Web Services Registry Technology:

- Is typically built on UDDI.
- Houses metadata that describes location, version and function of Web services.
- Can store service-level agreement information, such as required response times for services.
- Is emerging to outline governance of Web services, including who can access which types of services and how they can be used.

## Investment Firms Offer \$10.5B for SunGard

### Users show little concern about potential breakup

BY LUCAS MEARIAN

SunGard Data Systems Inc. disclosed last week that it's in discussions with a consortium of private investment companies seeking to purchase the financial services disaster recovery service provider for more than \$10.5 billion.

SunGard declined to identify the potential buyers, which reportedly include Silver Lake Partners, Kohlberg Kravis Roberts & Co., The Carlyle Group, Bain & Co., Texas Pacific Group, The Blackstone Group Inc. and Thomas H. Lee Partners LP.

Consultants and analysts said they believe the group will likely sell off SunGard piece by piece, a prospect that was of little concern to several users interviewed last week.

"These guys are interested in flipping that thing — either ripping it apart for its pieces or putting lipstick on it and getting out as soon as they can," said Steve Duplessie, an analyst at Enterprise Strategy Group Inc. in Milford, Mass.

David Dart, CIO at HVB America Inc., a New York-based division of financial services firm HVB Group, downplayed the breakup theory.

"I doubt very much that there would be any negative impact to me, the customer, as

**“If there ever was a company that was made for buying and selling off in pieces, this is the company.”**

TOM JORDAN, CEO,  
JORDAN & JORDAN INC.

a result of the investors breaking up and selling the individual components of SunGard," Dart said. "They all appear to me to operate independently. It's already like dealing with a number of different firms."

Jerry Klawitter, a vice president in charge of business continuity planning at J.P. Morgan Chase & Co. in New York, agreed, adding that "the shuffling of SunGard will be interesting to see."

About 60% of SunGard's revenue comes from its software and processing business. The rest comes from its Availability Services unit, which offers managed hosting of storage, data security, records management and disaster recovery.

The company has operations in 60 locations.

Last May, SunGard announced plans to spin off its disaster recovery business and take those operations public [QuickLink 49841]. Under the plan, SunGard Availability Services was to retain the SunGard name and about 2,000 of the company's work-

force of 13,000 people.

A SunGard spokeswoman said the company is continuing with that as-yet-unfinished plan until any buyout is final.

"We're concurrently proceeding with the spin-off, because unless we have a deal, it doesn't make much sense to deviate from our plans," said Madeline Hopkins.

Hopkins declined to comment further on the deal.

Tom Jordan, CEO of Jordan & Jordan Inc., a New York-based technology consulting firm specializing in the financial services industry, predicts that a buyout of SunGard will have little effect on customers, which include many top financial services companies.

Jordan said SunGard has grown through a plethora of acquisitions, so a sell-off likely won't affect the separate business operations.

"They'll be dealing with the same people when they spin off the companies," Jordan said. "If there ever was a company that was made for buying and selling off in pieces, this is the company." ☎ 53397

### Corrections

A STORY IN LAST week's News section ("Group Seeks Portfolio Management Answers") mischaracterized the membership of the Portfolio Management Council. Organizers said the group, which was formed to share ideas and best-practices information about IT portfolio management, includes both IT and corporate executives.

Reinsurance Group of America Inc.'s Web address was listed incorrectly in the Premier 100 Best in Class supplement, which was published as part of the March 14 issue. The company's Web site is located at [www.rgare.com](http://www.rgare.com).

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## BRIEFS

BMC Pays \$18M  
For OpenNetwork

BMC Software Inc. continued its identity management buying spree with an agreement to acquire OpenNetwork Technologies Inc., a maker of Web access management and single sign-on technology, for \$18 million in cash. The acquisition of privately held OpenNetwork will add technology for securely managing federated user identities and Web-based applications to BMC's identity management product suite.

Symbian, Microsoft  
In Licensing Pact

Symbian Ltd. has licensed a protocol from Microsoft Corp. to allow users of mobile phones based on the Symbian operating system to synchronize e-mail and other personal data with servers running Microsoft's Exchange Server 2003. Symbian said it will develop software based on Exchange Server's ActiveSync protocol for synchronizing e-mail, calendar, contact and other personal information management data.

BEA, HP Extend  
Their Partnership

BEA Systems Inc. has signed an agreement with Hewlett-Packard Co. that aims to provide tighter integration between the HP OpenView software portfolio and BEA's WebLogic Platform middleware. The BEA platform will be supported through the integration of HP OpenView across the WebLogic product stack.

CA, Quest Settle  
Lawsuit for \$16M

Quest Software Inc. has agreed to pay \$16 million plus royalties to Computer Associates International Inc. to settle a 2002 CA lawsuit accusing Quest of illegally using CA source code. The deal also resolves Quest counterclaims challenging the validity of some CA copyrights.

HMO Tufts Health Plan  
Revamps IT ProcessesImproves project  
delivery, cuts  
software defects

BY THOMAS HOFFMAN  
WALTHAM, MASS.

A THREE-YEAR effort to drive continual IT process improvement has helped Tufts Associated Health Plans Inc. dramatically increase the number of IT projects delivered on time and on budget while helping it pare the number of initial software defects.

The health maintenance organization's IT process improvement initiative "started with a business need," Tricia Trebino, senior vice president and CIO, said this month. "We certainly were having projects where our processes weren't as tight as they needed to be."

As a result, some IT projects prior to 2004 required rework and were delivered late and/or over budget, she said.

Tufts Health Plan has achieved dramatic improvements in its software development processes since it began to adopt in 2001 the Capability Maturity Model Integration (CMMI) methodology with the help of Boston-based

Keane Inc., said Dennis Todisco, director of IS quality management services. CMMI was developed by Carnegie Mellon University's Software Engineering Institute (SEI).

From 2003 to 2004, the HMO's IT organization experienced a 25% decrease in software defects. And last year, its IT department completed all eight of its major IT projects on time, according to Todisco.

"We're light-years away from where we were four or five years ago," said Trebino.

## One in a Handful

The HMO was appraised by ProcessWorks Inc. in Rockville, Md., under the auspices of the SEI, as CMMI Level 3 certified in December. Only a handful of U.S. companies that aren't IT consultants or vendors have attained that level of process maturity, according to the SEI Web site.

"A lot more companies are moving to [CMMI] Level 3 or higher, which is a good level to be at," said Joe Zuchero, executive vice president at The Casey Group, a Parsippany, N.J.-based consulting firm. He didn't know how many non-vendor firms in the U.S. have achieved Level 3 certification.

## CMMI Works

Tufts Health Plan has received the following benefits from its CMMI initiatives from 2003 to 2004:

- 25% decrease in software defects identified in testing
- 9% decline in production issues (these are global or systemic problems in its production environment)
- 7% decline in change requests (these are changes to its production environment)
- All eight of its major IT projects delivered on time in 2004

The Tufts Health Plan effort has been less about achieving Level 3 status than about driving continual IT process improvement, said Todisco. "The main goal has been to improve our IT processes one brick at a time," he said.

Officials concede that the results haven't necessarily come easily. The company's 300-person IT department had already been process-oriented prior to embarking on its CMMI journey, making use of methodologies such as the Information Technology Infra-

structure Library, said Todisco.

"One of the most difficult environments to introduce new processes into is a software engineering shop," said Todisco, because programmers tend to have very individualistic approaches to software development.

To help drive acceptance of the CMMI methodology, Trebino tied its adoption to compensation for certain IT workers. "We needed everyone to embrace it," she said. Since Tufts Health Plan was attempting to adopt CMMI Level 3 within three years while still running day-to-day IT operations, Todisco and Trebino also set up release management forums and discussion groups for IT workers.

"We told people that if there was something they were doing under the new model that didn't make sense to them that they should tell us and we would stop it — so long as the processes stayed close to the basic tenets of CMMI," said Todisco.

A turning point came when a growing number of IT workers began to see how the processes were helping reduce the time and effort needed to develop software and manage IT operations, said Trebino.

"It's like learning a new language," said Joseph Imbimbo, vice president of information systems at the HMO. "At first you translate it in your head. After a while, you do it instantaneously." ☎ 3403

## Comparing Methodologies

BEFORE TUFTS Health Plan began incorporating the CMMI methodology into its IT processes in 2001, the HMO had adopted other IT process methodologies.

They included the Information Technology Infrastructure Library (ITIL), a European methodology for providing best practices to IT infrastructure services, as well as ISO 9000 for IT security and the Program Management Body of Knowledge, said Dennis

Todisco, director of IS quality management services at Tufts Health Plan.

In some respects, CMMI is similar to ISO 9000 in that IT workers and managers can continually monitor and self-assess each quality process they use, according to Todisco. But CMMI is different from some other quality methodologies in that it's nonprescriptive, he explained.

At this point, Tufts Health Plan

doesn't have any plans to progress from Level 3 to Level 5 CMMI certification, the highest level under the SEI's CMMI methodology, said CIO Tricia Trebino.

**"We're not sure if the investment [in Level 5] would generate the returns."**

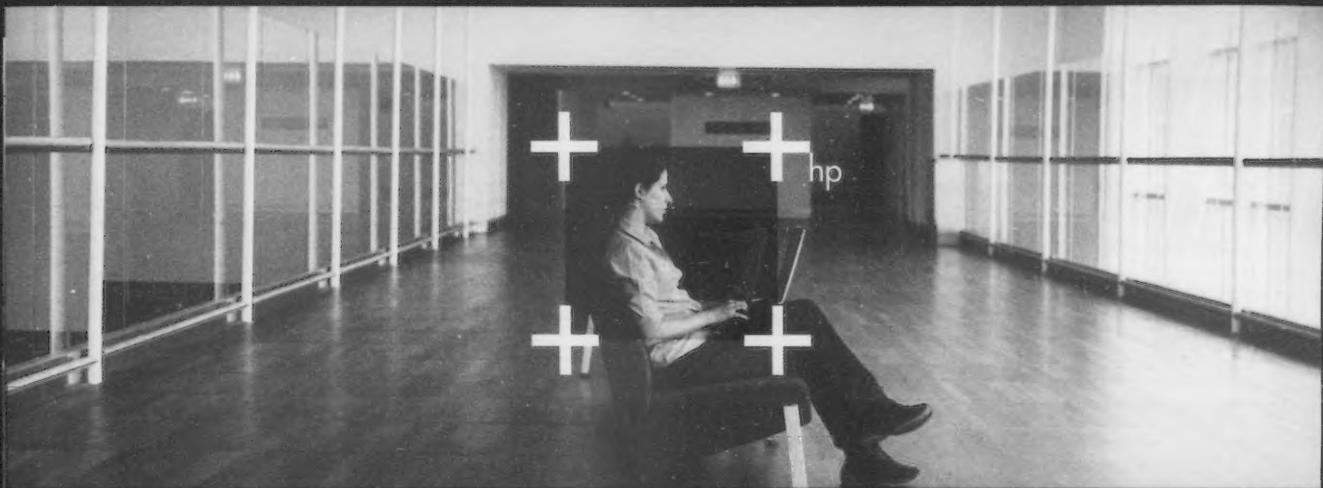
TRICIA TREBINO, CIO,  
TUFTS HEALTH PLAN

"We're not sure if the investment would generate the returns," she said, adding that the HMO's IT organization will likely examine various Level 5 processes to see how those could further enhance its IT processes.

Todisco said it's difficult to quantify the cost of attaining CMMI Level 3 certification, since most of the costs were related to documentation and because Tufts Health Plan has multiple business agreements with Keane Inc., the consultant that helped with the initiative.

— Thomas Hoffman





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## GLOBAL DISPATCHES

## An International IT News Digest

## Dormant Sun User Group Reborn in the U.K.

LONDON

**L**EADERS of Sun Microsystems Inc.'s anemic U.K. user group last week relaunched the organization in hopes of resuming its dual missions of sharing knowledge among IT managers and asking Sun tough questions.

The Southborough, England-based Sun User Group was founded in 1992 but has been dormant for the past three years, according to spokesman Dave Shearer. "I think the time is right to relaunch now because the economic cycle is getting better, individuals want to build their skills, and there's just a lot more to talk about," said Shearer, who is chairman and CEO of Sun reseller Acardia Ltd. in Bracknell, England.

The group wants to hear more from Sun about topics such as Solaris 10 and last year's surprise détente and technology agreement with Microsoft Corp., Shearer added. "There haven't been a lot of announcements on how that's really going to benefit users,"

he said of the Microsoft pact.

But Shearer noted that one of the user group's problems has been that some employers aren't willing to let IT managers take the time to attend its meetings.

■ SCARLET PRUITT, IDG NEWS SERVICE

## Europe Warns Microsoft About Licensing Terms

BRUSSELS

**T**HE EUROPEAN Commission has given Microsoft two weeks to come up with better licensing terms for its workgroup server protocols or face a fine of about \$5 million a day, sources said last week.

European antitrust regulators aren't satisfied that Microsoft's proposed licensing terms will help outside programmers develop products that interoperate well with Windows.

For example, Microsoft proposed a per-server license, but critics have said that would discriminate against open-source software developers who, because of the way open-source code is developed

## GLOBAL FACT

44%

Percentage of U.K. businesses that never answered mock customer service questions sent via e-mail.

SOURCE: STUDY BY TRANSVERSAL CORP. CAMBRIDGE, ENGLAND

## Drug Industry Plans Trials Of Digital Signature Specs

Standard is being developed to ease B2B transactions, submissions to regulators

BY JAIKUMAR VIJAYAN

The first pilot projects testing a digital signature standard that's being developed for worldwide use by the pharmaceutical industry are due to be launched within the next two weeks, according to officials involved in the effort.

The standard, called Secure Access for Everyone (SAFE), is designed to enable the use of legally enforceable electronic signatures over public-key infrastructure (PKI) networks. Backers envision the digital signatures being used in business-to-business trans-

actions and communication with government regulators.

Among other benefits, the SAFE credentials are expected to make it faster and more cost-efficient for pharmaceutical companies and researchers to submit applications and get approval for drug trials than with current paper-based processes, said Guy Tallent, SAFE's program director.

Tallent said the upcoming technology proof-of-concept projects will involve the National Cancer Institute (NCI) and a European data-processing network called EudraVigi-

lance, which is operated by the London-based European Medicines Agency.

The NCI will use electronic credentials based on the SAFE standard for documents that it submits to the U.S. Food and Drug Administration, Tallent said. He added that the EudraVigilance pilot will let companies use similar credentials for the submission of clinical trial data to various authorities within the European drug agency. In addition, pharmaceutical makers Johnson & Johnson, Merck & Co. and Pfizer Inc. plan to implement pilot projects later this year, according to Tallent.

Those three companies were among the eight founders of SAFE-BioPharma Inc., the coalition that is developing the SAFE standard. The coalition was formed in 2003 under the sponsorship of the

and distributed, may not know how many servers would be using Microsoft's protocols.

The EC previously ordered Microsoft to make its communications protocols available under "fair and nondiscriminatory" licensing terms. A Microsoft spokesman said the company will try to resolve the commission's concerns and comply with the ruling.

■ SIMON TAYLOR, IDG NEWS SERVICE

## Dell Opens Call Center Near India-Pakistan Line

BANGALORE, INDIA

**D**ELL INC. last week formally opened a call center in a small town in the north of India and said it plans to hire a total of about 1,500 workers there.

Faced with a shortage of qualified personnel in large cities such as Bangalore, Delhi, Mumbai and Hyderabad, several multinational and local companies are setting up call centers and business process outsourcing operations in smaller towns.

Dell's new call center — its third in India — is in Mohali, near Chandigarh, not far from India's border with Pakistan. The facility already employs about 300 people, said Romi Malhotra, managing director of Dell International Services India here. ☎ 53358

■ JOHN RIBEIRO, IDG NEWS SERVICE

Compiled by Mitch Betts.

## Briefly Noted

The Philippines' Commission on Information and Communication Technology is intensifying its campaign to cut the use of unlicensed software at national government agencies, which sometimes use pirated software because they lack the funds to buy licenses. The government's antipiracy campaign includes educating employees about volume licenses and ensuring that agencies have adequate IT budgets. ■ GRACE S. CLAVECILLA, COMPUTERWORLD PHILIPPINES

America Online Latin America Inc., based in Fort Lauderdale, Fla., is quickly running out of funds and could soon cease operations or file for bankruptcy, the AOL subsidiary said in a regulatory filing last week. ■ SCARLET PRUITT, IDG NEWS SERVICE

Software vendor ILOG Inc., in conjunction with an IT development agency in Singapore, last week opened a center there to develop pilot projects implementing business rules management systems. The first project is at Singapore's Alexandra Hospital, said ILOG.

Pharmaceutical Research and Manufacturers of America, a Washington-based industry group, and it went public with its technology plans last June [QuickLink 47507].

Pamela Fusco, chief information security officer at Whitehouse Station, N.J.-based Merck, said SAFE "will enable us to communicate better with other pharmaceutical companies, vendors and part-

ners, and to do it in a consistent and expeditious fashion."

On March 16, the SAFE coalition announced that it had selected Cybertrust Inc. in Herndon, Va., to develop and manage the technical infrastructure needed to ensure interoperability between companies that adopt the standard.

Cybertrust's UniCERT software will provide the technology needed to securely exchange and validate identity information across the different PKI implementations used by SAFE members, said Matthew Tuttle, the vendor's vice president for identity management services.

New York-based Identrus LLC, which was formed by a consortium of banks, provides similar PKI-based digital identity-authentication services to the financial services industry.

☎ 53409

## Sign Online

The SAFE initiative is aimed at:

- Helping pharmaceutical companies and researchers develop end-to-end electronic workflows that can increase productivity and system scalability.
- Freeing government regulators from paper-based record-keeping in an effort to boost both efficiency and accuracy.

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Continued from page 1

## Indiana

needed because the system won't be deployed as is.

"The first release for a subset of statewide functionality was targeted to enter user acceptance testing in the final quarter of 2004," said Mary DePrez, new director of the case management system for JTAC. DePrez replaced Kurt Snyder, the court's director and counsel of trial court technology, as lead in the project last month.

"A 'go live' date was to be scheduled after the successful completion of user acceptance testing," DePrez said. "We were fortunate enough to identify a few problems early, and we are working closely with all our partners to address them."

She said the state and CA are in a "concentrated re-evaluation" that, although "not planned for, is not entirely unexpected at this early stage of a project of this magnitude."

During the next four to six months, the JTAC team will decide what, if any, additional requirements are needed. Then it can determine when the project will be completed.

The Masterpiece module was to be used by clerks and court officials to process fines and perform other duties. Masterpiece, owned by CA when the project started, was sold to SSA Global Technologies Inc. in April 2002.

### Unmet Need

"Following the assessment of the application that had been delivered to JTAC from CA during the month of December, we had a collective gasp... as to what we had and what we needed," said Marion County court administrator Mark Renner, who serves on a board under JTAC. Marion County was one of the initial testers of the system in December.

Although Masterpiece works well in the private sector, it's too sophisticated for clerks and other users in

the court, Renner said.

A CA spokesman acknowledged that "there was some difficulty translating commercial accounting functions to unique aspects of court case financial functions." Communication between Masterpiece and the case management system (CMS) was also slow.

According to Renner, other problems included a lack of clear communication about functional needs and requirements by JTAC team members to CA developers, and a failure to define the scope of the project. The result: a difficult-to-use CMS.

In Marion County, which includes the city of Indianapolis and has more end users than any other county court in the state, administrators are now wondering whether they should upgrade their own 18-year-old mainframe-based CMS or wait until the newly developed JTAC system goes live. The latter option, Renner said, could take two to three years.

The delay in getting the



THE INDIANA COURT SYSTEM has had to delay going live with its new case management system.

JTAC system up and running is also disappointing for Clay County clerk Mary Brown. Looking back, she said, her court could have built its own CMS to replace a mostly paper-based system rather than wait for the statewide package. The postponement means there may be up to three more years

of data that must be entered by hand into the JTAC system. "I don't know what we'll do," she said.

The CA spokesman said the company remains committed to the project. "We are working closely with JTAC to address all issues in a complete and timely manner," he said. If its plan is approved, CA will build proprietary financial functions directly into the CMS while making the system more user-friendly.

In a statement, CA said it will provide additional, undetermined resources to the project without charge to the state. It also said that Sam Greenblatt, a senior vice president and senior technical adviser at CA, will oversee the project and report directly to CEO John Swainson.

In an e-mail, SSA said, it was "in the middle of discussing the required changes when [it was] informed that the Indiana Court System decided to develop its own solution." **53392**

Continued from page 1

## Sybase Threat

Responsible disclosure of software flaws by vulnerability researchers has "significantly improved" the security of products, Powers said. "Preventing disclosure through the threat of legal action can only hurt security," he added.

But Kim Milford, information security manager at the University of Rochester in New York, said she thinks that most IT support workers would contact their software vendors directly for help if security patches weren't effective or couldn't be applied to their systems. In such cases, "hackers tend to benefit the most from the release of technical details" about security vulnerabilities, she said.

Dublin, Calif.-based Sybase sent a letter to Next Generation Security Software Ltd. warning of legal consequences if Surrey, England-based NGS went ahead with plans to release information

about the flaws it discovered in Version 12.5.3 of Sybase's Adaptive Server Enterprise (ASE) software.

NGS initially disclosed the existence of the flaws only to Sybase, which released a fully patched and updated version of the affected software in February. In line with its stated practice of waiting for vendors to issue patches, NGS had said it would publicly release details of the flaws last Monday. But it decided not to after receiving Sybase's letter. "We were quite shocked,"

"[Sybase] does not believe that publication of highly specific details relating to [security] issues is in the best interest of its customers."

FROM A STATEMENT ISSUED BY THE SOFTWARE VENDOR

"Security through obscurity just does not work."

ERIC BEASLEY, SENIOR NETWORK MANAGER, BAKER HILL CORP.

NGS co-founder David Litchfield said via e-mail. "They claim that looking for security bugs comes under the banner of database performance testing and benchmarking." Litchfield noted that the license agreement for the Development Edition of Sybase ASE prohibits the publication of performance testing and benchmarking results without Sybase's permission.

In an e-mailed statement, a Sybase spokeswoman defended the company's action and said it was motivated by concern for the security of ASE users. "Sybase does not object to publication of the existence of [security] issues discovered in its products," the statement read. "However, the company does not believe that publication of highly specific details relating to issues is in the best interest of its customers."

The case highlights the need for more cooperation between software vendors and vulnerability researchers, said Eric Beasley, senior network manager at Baker Hill Corp., a

Carmel, Ind.-based provider of application services to the banking industry.

"I think it's a very bad idea to try and squash vulnerability research because then, obviously, most [vendors] are not going to endeavor to make safer software," Beasley said. "Security through obscurity just does not work."

At the same time, though, security researchers need to work with vendors and ensure that information is disclosed only in a responsible and safe manner, Beasley added. "The two sides need to be looking at such problems together and not get into such an adversarial relationship," he said.

Sybase's warning, though rare, isn't entirely unprecedented, said Michael Sutton, director of vulnerability research at iDefense Inc. in Reston, Va. In the past, iDefense has been threatened with similar actions by software vendors, though none has yet gone to the extent of sending a formal legal notice like Sybase did, Sutton said.

Bruce Schneider, chief technology officer at Counterpane Internet Security Inc. and a longtime advocate of public disclosures of vulnerabilities, said the notion that bug hunters only increase security risks by unearthing and disclosing well-hidden software problems is just plain wrong.

"That is just naive," Schneider said. "Don't shoot the messenger. Just fix the problems in your software."

But Bob Bagamery, a systems support specialist at a large Canadian utility that he asked not to be named, said the threat of disclosing detailed information about vulnerabilities should be used by security researchers only "when not enough effort is being made to correct the flaw, or when the software manufacturer is trying to blow off" the issue. **53410**

## JUST PLAIN DUMB

Frank Hayes wonders whether the top execs at Sybase are well intentioned and dumb, or a bunch of control freaks. See page 62



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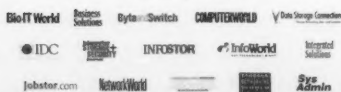
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# IBM, Compuware Reach \$400M Settlement

## Dueling lawsuits end as IBM agrees to buy Compuware software and services

BY STACY COWLEY  
AND STEPHEN LAWSON

IBM signed a \$400 million settlement agreement last week with software developer Compuware Corp. to resolve a series of lawsuits between the two companies. The agreement ends a dispute that began three years ago, when Compuware filed suit against IBM for a litany of alleged violations, including copyright infringement and antitrust law abuses.

Under the terms of the deal, IBM agreed to spend \$400 million over the next four years on Compuware software and services, the companies said. IBM will spend \$260 million on Compuware services and pay an additional \$140 million to license Compuware software.

IBM and Compuware also entered a patent cross-licensing agreement and will exchange technical informa-

tion to ensure interoperability between their products.

An IBM spokesman said the \$260 million services component of the deal won't come directly out of the company's pocket; IBM will offer Compuware subcontracting deals through IBM Global Services valued at that amount.

Zaineb Bokhari, a software analyst at New York-based Standard & Poor's Equity Research Services, described the outcome as anticlimactic, considering the amount of time and money Compuware had devoted to advancing its case.

### Surprising Terms

"I was surprised at the settlement terms. It reads more like a partnership than a legal set-

tlement," Bokhari said. "You think, 'Gee, there's other software companies that are doing this without a legal battle.'"

Still, Bokhari said she expects the deal to benefit both companies, which can now move on without the further expense and distraction of a courtroom fight.

She said she doesn't think the deal will affect customers. "From a competitive standing overall, it's not like anything has changed in any way," Bokhari said.

Compuware filed its initial complaint in March 2002, charging that IBM used Compuware source code in several of IBM's own tools, steered its services customers to IBM products and denied rival vendors the technical information needed to build software for IBM systems.

A trial on those charges be-

gan last month in the District Court for the Eastern District of Michigan, near Compuware's Detroit headquarters.

Those Compuware allegations set off a web of litigation between the two companies.

IBM countersued in the Michigan court, alleging that Compuware violated six IBM patents. In January 2004 the company filed another patent-infringement lawsuit against Compuware, this time in New York's Southern District Court.

### Hostilities Cease

Those lawsuits ceased as a result of the deal, which settles all outstanding litigation between the companies.

In a conference call with analysts and reporters last week, Compuware Chairman and CEO Peter Karmanos predicted that the deal will help both companies.

"This is a great win for everyone but the lawyers," he quipped.

In fact, Karmanos said he expects a reduction in legal

costs to be a significant boon to Compuware, saving the company \$20 million to \$40 million per year. The long legal battle has cost Compuware about \$95 million, Karmanos estimated.

Under the agreement, IBM will get an enterprise software license that covers all Compuware products.

A joint task force with representatives of both companies will determine how IBM will use the Compuware products, Karmanos said, adding that he aims to convince IBM to buy more products from his company.

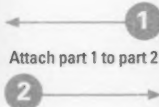
Compuware, which had complained in its lawsuit that IBM had become stingy in supplying important technical information to independent software vendors, is now satisfied that it's receiving what it needs, according to Karmanos.

Karmanos also said the deal won't reduce pricing pressure. "We're still going to compete with them, and that works out well for all our customers," he said. **53366**

Cowley and Larson are reporters for the IDG News Service.

**This is a great win for everyone but the lawyers.**

PETER KARMANOS,  
CHAIRMAN AND CEO,  
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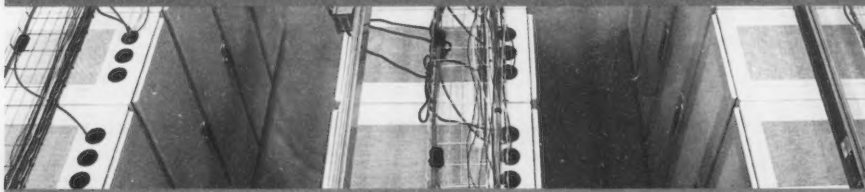
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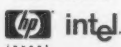
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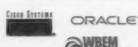
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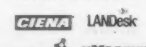
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# Carnegie Mellon Unit Looks to Advance IT Security, Reliability

**CyLab exec says more-resilient systems are a goal**

BY PATRICK THIBODEAU

Three years ago, Carnegie Mellon University and a group of 18 IT vendors and users, including FedEx Corp., Microsoft Corp., NASA, Oracle Corp. and Pfizer Inc., formed the Sustainable Computing Consortium in an effort to improve software quality and reliability [QuickLink 29866]. In 2003, the consortium became part of Carnegie Mellon's CyLab initiative, which was formally launched late that year.

CyLab now involves more than 200 faculty members, students and researchers at the Pittsburgh-based university. In addition to sustainable computing, CyLab is working on IT issues such as device security, data privacy and the development of self-healing systems

and networks. Pradeep Khosla, co-director of CyLab and dean of the Carnegie Institute of Technology, discussed the organization's research efforts in an interview with Computerworld this month.

**What happened to the Sustainable Computing Consortium?** We were the bigger umbrella that absorbed it. The type of work that we were doing subsumed all the work that the Sustainable Computing Consortium was doing. We have an initiative in software assurance.

**But do you have more of an IT security focus than the SCC did?** Actually, that's what people think, but the real focus is next-generation IT. It means systems that are measurable, available, secure, sustainable and trustworthy.

**What are your goals for project deliverables?** All of our re-

search is divided into "thrusts." There is a thrust on resilient and self-healing systems. Is that about security? No. But it is highly related to security, because if you build a system that is resilient or self-healing, some of these security issues and ramifications go away. We have a thrust on user authentication and access control; we have thrusts on [topics such as] data and information privacy, threat prediction modeling and business economics.

**How is that different from what IBM, for instance, is doing with autonomic computing?** It

doesn't differ with respect to the goals. But it differs in the approach we take. We typically tackle problems that are higher risk.

**How far are you from proving a concept?** We have a demonstration system working for secure storage. We are now expanding that to what we call self-security, self-healing, self-analyzing. For example, if you

look at the current router and switch technology, there is no way to trace a packet back to the source. If you start an attack, and even if I trace it back to your computer — first of all, there is no way, but let's assume there is a way — you can say, "It was not me working on it, it was somebody else."

Now imagine there are biometrics on this computer, where you're being au-

thenticated all the time, so I can come back and say, "It was not only your computer that started this for sure, but you were working on this when it happened." To trace packets, you have to think about what the networking [and] routing infrastructure will look like. So we have developed a coding scheme where we can take an existing infrastructure, put code there, and it has the ability to track packets. Right now, it exists in a lab, but in the next three to five years, it's going to be everywhere.

**You said the group's backers will be meeting in April to set the agenda for next year. What do you think will be some of the new items?** One agenda item may be malicious code detection. How do you detect that?

**Wasn't that one of the goals of the SCC?** Their goal was to reduce the number of bugs. Their thesis was that bugs create security holes. There is nothing wrong with that premise; it's just a very narrow premise, because you can have no bugs and have malicious code.

Q 53368



**"If you build a system that is resilient or self-healing, some of these security issues and ramifications go away."**

PRADEEP KHOSLA, Co-director, Carnegie Mellon CyLab

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DON TENNANT

# IT Inbreeding

**T**HIS IS GOING to get me into trouble again, but what the heck. It's been at least two weeks since I've been called a traitor, so I guess I'm due. Here goes: If you're considering "farmsourcing" as an alternative to offshore outsourcing, you may be stepping in something you shouldn't.

First, for the uninitiated, let me explain what I mean by farmsourcing. The term is gaining acceptance as a synonym for rural sourcing — the practice of establishing operations in, or outsourcing work to, areas in the U.S. where the cost of living, and therefore wages, is relatively low. Since those areas are typically a little more rustic than, say, Silicon Valley or the Boston-to-D.C. corridor, you get the folksy farm reference. The idea is that rather than sending work offshore to take advantage of cheap labor, you can send work to the hinterland and not have to deal with those dang foreigners.

Now, before we have any veins popping out of the foreheads of livid offshore-outsourcing foes, let me make it clear that I'm all for taking advantage of IT skills and promoting IT job opportunities in the U.S. heartland and in rural areas across the country. It's great that Cheryl Smith, CIO at U.S. pharmaceutical giant McKesson Corp., has relocated her primary data center from San Francisco to Dubuque, Iowa, as Julia King points out in her story on the topic in this week's issue (page 45). In fact, I spoke with Smith about her strategy at our recent Premier 100 IT Leaders Conference in Phoenix, and it seemed perfectly reasonable in McKesson's case to head for Dubuque, where the company already had an operational presence, rather than Dublin or (perish the



DON TENNANT is editor in chief of *Computerworld*. You can contact him at [don\\_tennant@computerworld.com](mailto:don_tennant@computerworld.com).

thought) Dalian, China.

So I'm not arguing for a nanosecond that there's no legitimate business case for farmsourcing. What I will say is that a company that opts for rural sourcing over offshore outsourcing stands to lose out on the opportunity to learn and benefit and grow from the exposure to other cultures — and markets — that the offshore connection affords. And that's a shame.

I have to admit I was a little disturbed by the comments in Julia's story of Gary Hart, vice president of global outsourcing at Texas-based Optimal Solutions Integration. Hart has contracted IT work to a rural sourcing outfit in Arkansas, and

he clearly welcomes the cultural convenience. "There's not much difference between my Texas accent and the one you get in Arkansas," he says. "On every level, it makes sense."

I disagree. It might make sense on some levels, but certainly not all of them — at least not in the sort of world most of us want to live in. No matter how you look at it, Hart's accent comment is indicative of an attitude that values sameness over diversity. It bespeaks an insularity that's uncomfortable for anyone who has recognized the benefits of forces like multiculturalism and globalization.

Inbreeding as a practice is just plain unhealthy, and that goes for IT inbreeding as well. Turning inward isn't the answer. We shouldn't avoid different accents or different cultural norms or different approaches to business. Rather, that diversity needs to be sown, cultivated and allowed to flourish. That, in the end, is the real farm that a healthy and growing company needs to be sourcing from. **53377**

*Don Tennant*



DAVID MOSCHELLA

## Is It Business That Doesn't Get IT?

**L**AST JUNE, I wrote a column arguing that one of the main reasons so many business people embraced Nicholas Carr's erroneous but provocative *Harvard Business Review* article "IT Doesn't Matter" was that it played to some of their deep-rooted fears and anxieties [QuickLink 47659]. Simply put: If IT doesn't matter, that means it's not really worth learning about, a reassuring thought to many IT-phobic business people, both at the staff and executive levels.

At the time, this was just a pet theory of mine that was supported by a fair amount of anecdotal evidence. But one of the nice things about running a research group is that you can actually test some of your own ideas. A few months ago, we did just that. In conjunction with the *Financial Times* here in London, we interviewed 400 U.S. and European executives, half from business, half from IT, and all from large corporations. We asked them a lot of questions, one of which was, "Which of the following is the biggest barrier to your company's use of IT?" The four possible answers, and the results for IT and non-IT executives, are provided below.

ANSWERS	CIOs	CXOs
■ The IT department's lack of understanding of business issues	6%	11%
■ Business people's inability to understand what can and can't be done with IT	31%	42%
■ The inability of the business to change in order to take advantage of new IT capabilities	44%	32%
■ None/refused	9%	15%

From a survey design perspective, the third option can be described as the safe choice, since it doesn't appor-



DAVID MOSCHELLA is global research director at CSC Research and Advisory Services, a Computer Sciences Corp. company. Contact him at [dmoschella@cscitlink.net](mailto:dmoschella@cscitlink.net).



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tion blame. So it's not surprising that over half of the respondents either answered this way or refused to answer altogether.

Much more interesting is the contrast between the first and second responses. By a roughly 5-to-1 margin, more executives said that the real barriers to effective IT usage were on the business side. Less than 10% seemed to buy into the familiar complaint that the main problem is jargon-addicted, technology-for-its-own-sake, business-unaware IT professionals.

Importantly, these views were consistent, whether the respondent was an IT or business executive. Only 11% of business executives — CEOs, CFOs, heads of sales, marketing and others — thought that IT people were the main barrier, which isn't much more than the 6% of CIOs and other IT executives who felt the same way.

Does this mean that all the stereotypes about IT workers are simply wrong? Of course not. IT professionals can always improve their business skills, and there are still far too many IT people who would rather tinker with code than make hard business decisions about what their systems should and shouldn't do.

What it does mean is that the real challenge for the IT industry is to create a new generation of business leaders for whom the use and potential of IT are second nature, workers who would never question the fact that sales, marketing, finance and other employees at all levels need to know a great deal about IT simply to do their jobs effectively. As of now, however, too few business executives send this message to their organizations, and far too many still embrace the "IT doesn't matter" mantra as a way of avoiding uncomfortable truths and challenges.

53217

JOHN D. HALAMKA

## It's the Year For E-health Records

**M**Y GRANDMOTHER died of a medical error because the doctor didn't know what medications she was taking. But that's only one reason why I agree

with President Bush that every patient in the U.S. should have an electronic health record.

In a recent visit to the Cleveland Clinic, Bush declared that every doctor in the U.S. should use EHRs to improve quality and reduce cost. In his 2004 State of the Union address and during the presidential campaign, he called for the nation to eliminate paper medical records within a decade.

Other countries are doing that. The U.K. has allocated £6 billion to build a network of EHRs. In Sweden, 85% of physicians use EHRs.

Why is all this happening? Simple: The existing medical system is drowning in the inefficiency caused by lack of automation.

Although most industries have automated their supply chains, CRM and back-office processes, only 15% of U.S. physicians use EHRs. The incentives in the current reimbursement system are so misaligned that doctors are reluctant to acquire technology. On average, an electronic medical records system costs \$10,000 to install. Most of the benefits of that investment accrue to the insurance companies (89%) and only 11% to the doctors. For the first three to six months, automated work-



JOHN D. HALAMKA is CIO at CareGroup Health System, CIO and associate dean for educational technology at Harvard Medical School, chairman of the New England Health Electronic Data Interchange Network, CIO of the Harvard Clinical Research Institute and a practicing emergency physician. Contact him at [jhalamka@caregroup.harvard.edu](mailto:jhalamka@caregroup.harvard.edu).

flows reduce the productivity of the physicians, who typically scrawl unreadable notes and orders onto paper. How popular can an investment in technology be if it will reduce your short-term productivity, cost you money, take more of your time and benefit someone else?

But the long-term benefits are staggering. In Massachusetts, approximately 15% of medical care is redundant or inappropriate. That's \$4.5 billion per year. The cost of implementing EHRs throughout the state is approximately \$1 billion. Wouldn't you make a one-time \$100 investment to save \$450 every year afterward? Na-

tionwide, the U.S. would save an estimated \$144 billion per year by using appropriate IT in our hospitals and doctors' offices.

In addition, approximately 98,000 preventable deaths occur each year because doctors write prescriptions for medications that cause harm — interactions with other drugs, conflicts with known allergies, or drug restrictions imposed by pre-existing medical conditions. That's equivalent to a 747 crashing every day, killing all aboard. If airlines had this error rate, would you fly?

But given the way the short-term cost-benefit ratio is stacked against the doctors, how can they be induced to adopt EHRs? The easiest way would be for the payers, including Medicare and Medicaid, to pay physicians to acquire the technology and give them incentives to use it.

When financial incentives are aligned and standards for electronic interchange of health care records exist, the quality of medical care will increase, deaths will be prevented, and costs will decrease.

Bush has appointed Dr. David Brailer as the first national health care IT coordinator, with the goal of getting payers, providers and industry to create a nationwide network of interoperable medical records. Thus far, the administration has suggested that Brailer will have \$50 million to accomplish this task. Compared with the U.K.'s £6 billion, this seems like budget dust.

But it's a start. 2005 should be the year in which the medical industry begins to approach the degree of automation implemented by financial and manufacturing industries a decade ago. It's important work for all of us. With the right health care IT implementations, our grandmothers will be safer.

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## READERS' LETTERS

### Old Lessons

**I**N "LINUX STRUGGLES for Desktop Acceptance" in the Feb. 21 issue [QuickLink 52708], Carol Siwa quotes an application development manager: "We use a lot of homegrown software that would have to be rewritten to go with Linux on the desktop." I learned more than 30 years ago that this means the software was written wrong in the first place. Even after decades of preaching, there are still those who haven't gotten the portability message. Sheesh.

Van Snyder  
La Crescenta, Calif.

### Apple Power

**I**N "REALLY ENJOYED Mark Hall's "In Business to Stay" article [QuickLink 52603] about the emergence of the Apple platform in the

business IT sector. But the comparison of the Apple Xserve to the Windows-based Dell PowerEdge 1850 left out one crucial element: The PowerPC G5 processor that powers the Apple Xserve is a 64-bit processor (and there are two of them, to boot).

Larry R. Ford  
Mesa, Ariz.,  
[cobra136026272@mac.com](mailto:cobra136026272@mac.com)

### 'Basic Operations' Aren't That Basic

**I**N THE ARTICLE "HP Claims Molecular Computing Breakthrough" [QuickLink 52307], you quote a Hewlett-Packard press release saying that "the so-called NOT operation... along with AND and OR is one of three basic operations that make up the primary logic of a computer circuit." Not all three

operations are basic. In fact, either AND or OR can be derived by combining the other with the NOT operation. Specifically,

$p \text{ OR } q = \text{NOT} (\text{NOT } p \text{ AND NOT } q)$

and

$p \text{ AND } q = \text{NOT} (\text{NOT } p \text{ OR NOT } q)$

Of course, it seems likely that a "native" OR would be faster than one derived from three NOTs and an AND; but with molecular circuits "thousands of times more powerful" than transistors, you could still realize an orders-of-magnitude gain by implementing two of the three as basic operators and synthesizing the third.

Rick Montgomery  
Powhatan, Va.

### Weapon of Choice

**I**N HIS Feb. 21 letter ("They Shoot Hard Drives, Don't They?" QuickLink 52458), John Libertine talked

about "reformatting" hard drives with a gun. However, you've only wounded the beast. A friend of mine worked at Northrop some time ago. Their solution for sensitive data is simple too: Take the disk out to the shop and sandblast off all of the oxide.

John Carter  
Chicago

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: [letters@computerworld.com](mailto:letters@computerworld.com). Include an address and phone number for immediate verification.

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# Intelligent Infrastructure, Intelligent Business

*Overlaying the Internet with an intelligent infrastructure unleashes the next generation of business potential*

*As amazing a business tool as the Internet has become, the fact remains that organizations have just scratched the surface of its far greater potential. The ability of Voice over IP (VoIP) to radically reduce fundamental communications costs is one early indication of the Internet's transformational capabilities. The unique insight into Internet security patterns and trends can allow a managed security services provider to give businesses the extra measure of security protection demanded today. Radio frequency identification (RFID) projects are literally redefining the way manufacturers and their partners interact. From these examples and others, it is clear the emergence of intelligent infrastructure services is bringing the potential of the Internet to full flower.*

**It would be** more than three decades before the short-haul railroads that sprung up everywhere starting in the 1830s would finally be interconnected and transformed into a national rail system. This took such a long time simply because railroad operators had to use sluggish, unreliable overland mail services to coordinate this vast effort.

But once telegraph lines were installed right alongside the rail beds, two-way communication became almost instantaneous. Rail development soared as a vast national network took shape. And it all happened because the original system was overlaid with an intelligent infrastructure: the telegraph network.

Thus, a network faced with a critical level of usage and a growing complexity threatening its usefulness was instead transformed into a veritable

engine of progress and growth. The rest, as they say, is history.

The same can be said today about the Internet. This network of networks holds almost limitless potential to link businesses to partners, suppliers, and customers in dynamic, interactive ways. The vision of a supercharged Internet will reach its full potential only if these links and connections can be made secure, reliable, and adaptable. In other words, like the early railroads of 175 years ago, the Internet needs an overlay of intelligent infrastructure. The Domain Name System (DNS) was the critical intelligent infrastructure that linked requests for user-friendly domain names to more complex IP addresses, which helped make the Internet accessible to the masses. Similarly, intelligent infrastructure will play a critical role in unlocking the tremendous business potential of the Internet as it grows.

Think of it this way: Intelligent infrastructure for the Internet will provide several, if not all, of the following key network enhancements—scalability, security, interoperability, availability, adaptability, and visibility—to literally change business processes and their economics. Already, intelligent infrastructure is enabling some of the most exciting business applications, such as VoIP, highly touted RFID-enabled supply chains, and mobile digital content delivery systems. And that's just for starters.

## The drivers

Like the telegraph of a bygone era, intelligent infrastructure and intelligent infrastructure services are not technologies in search of a market or application. Quite to the contrary, the development of intelligent infrastructure services is intimately linked to today's major business and network drivers. These drivers include:

■ **The growing use of the Internet for mission-critical applications.** During the year-end holi-

day shopping period last year, shoppers placed some \$9 billion of orders online. That number should double in three years. But growth will be stopped dead in its tracks and even recede rapidly if consumer confidence in secure online transactions doesn't continue to grow in tandem.

■ **The rapidly rising tide of regulatory compliance.** The business lexicon today is spiked with an alphabet soup of acronyms referring to new compliance regulations related to business data. From SOX to HIPAA to CALEA and so on, these regulations are placing heretofore unheard-of demands upon IT managers to maintain a scalable security framework to comply with internal and external audit requirements.

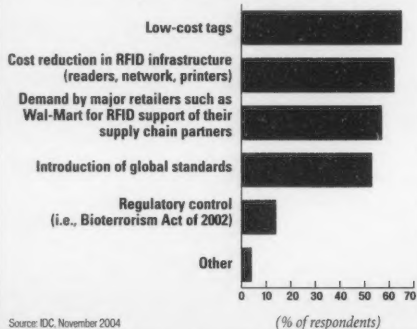
■ **The fight against phishing and identity theft.** These two culprits, left unchecked, would be a big glass of icy cold water thrown in the face of Internet commerce, and the ramifications would be disastrous for so many kinds of organizations that have invested so heavily in e-commerce infrastructures.

■ **The interoperability mandate.** Everyone knows that business-critical communication is trending outside the four walls of the organization or, in network terms, far beyond the firewall. The most important network and data links are among a business and its partners, customers, and suppliers. If the underlying network infrastructure doesn't have the intelligence to recognize and accommodate the disparate systems it inevitably encounters, growth of these vital communications links will surely be stunted.

■ **The business continuity mandate.** Several years ago an industry pundit declared, "The network is the computer." The contemporary version of that truism is: "The network is the business." Just ask executives at an airline or hotel, or a modern manufacturing operation. If workers and

## Top 3 Drivers of RFID Market Acceptance

Q. In your opinion, what will be the top 3 most important factors in driving RFID mass-market acceptance?



Source: IDC, November 2004



smart machines can't access and swap information, work for all practical purposes grinds to an ugly halt. Real costs accrue. Jobs and careers are jeopardized. The network has to be solid and stable, without compromise.

#### VeriSign answering the call to action

While the items above are noted as "drivers," IT managers usually refer to them as "formidable challenges," among other things. For IT managers, who have been working on very tight budgets over the last several years and are being pushed to support core business requirements and applications, the mere thought of meeting these challenges is daunting.

This is where VeriSign enters the fray. With its focus on providing and shaping the Internet's intelligent infrastructure, VeriSign is singularly dedicated to enabling businesses to find, connect, secure, and transact across today's complex Internet, telecommunications, and converged networks.

Perhaps most widely known for its Domain Name Registry Services, VeriSign in fact operates an intelligent infrastructure that processes an astonishing 14 billion Web and email lookups each day. In North America, the greatest of all commercial marketplaces, VeriSign handles more than 37% of all e-commerce transactions, securely processing some \$100 million in daily online sales.

By leveraging its rich and deeply experienced Internet legacy along with key technology acquisitions made in recent years, particularly in the digital content management area, VeriSign is positioned as the leader in providing intelligent infrastructure services at just the right time in business history.

#### Intelligent infrastructure in action

In many ways, intelligent infrastructure is synonymous with the most exciting aspects of network convergence and the blossoming of next-generation networks. VeriSign's expertise is already delivering results to IT professionals. In the red-hot area of Managed Security Services (MSS), VeriSign has leveraged its unique experience and insight into

*"As enterprises face external forces that impact their business, such as hacker attacks, and cost, compliance, and complexity issues, they are looking to Managed Security Services Providers to help them with their network security.*

*However, point solutions and MSSPs without unique differentiators do no good. With cyber attacks increasing in size and sophistication, they need unique insight into trends within their networks, across networks, and the Internet to make sure appropriate security protections are taken."*

—Judy Lin, Executive Vice President  
and General Manager,  
VeriSign Security Services

Internet security patterns and trends to provide unparalleled intelligent MSS. These services hit many IT security sweet spots, such as the growing problem of phishing or identity theft, as well as end-point protection and managed vulnerability protection services.

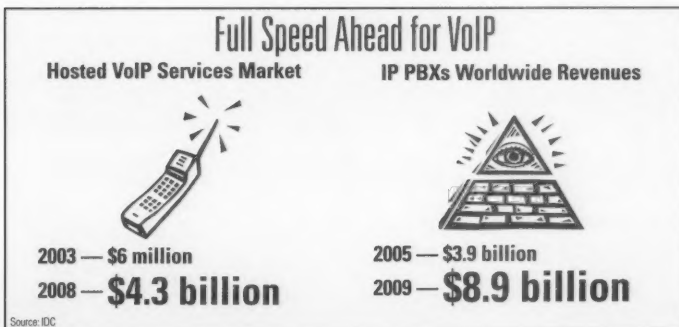
When it comes to RFID-enabled supply chains, where electronic "tags" are poised to replace the current barcode system, VeriSign is making it possible for manufacturers and their partners to get more fine-grained, real-time inventory intelligence. Forrester Research maintains that new intercompany RFID projects will require advanced technologies to manage the sheer volume and complexity of

RFID data. Forrester says partnerships between VeriSign and leading data synchronization vendors will help companies leverage and exploit RFID while at the same time preserving existing technology investments. Developments in RFID are providing scalable IP data sharing and trust services, enabling demand-driven supply chains, and increasing visibility.

VoIP carries the promise of sending a lot of today's communications costs through the floor. But for service providers to deliver on this promise to eager enterprise customers, they must first undertake a lot of basic blocking and tackling, such as providing secure connections to allow VoIP to pass through despite the large number of ports to be opened within a corporate firewall. VeriSign intelligent infrastructure services will provide all this and more to allow carriers to deliver the full benefits of VoIP while addressing their own needs to bridge Internet and telecommunications infrastructure.

VeriSign has also been active in the nascent digital content services area. A new VeriSign service offering allows mobile network operators to respond on a global scale to new service demands, from both businesses and consumers, for multimedia and interactive digital content delivered over mobile devices. These include intelligent messaging services to help businesses mobilize communication, collaboration, and workflow applications on just about any digital mobile device.

A good example of intelligent infrastructure in operation is as follows: A sales executive is roaming on her cell phone (1), which switches over to an IP-based network (2), to make a transaction (3) in which content is secured (4) and delivered (5) back through that same connection. In this case, VeriSign has provided her with five different intelligent infrastructure services—transparent to her and the vital function she just fulfilled.



#### A matter of focus

This is just one example of how VeriSign has exploited its rich heritage of supplying Internet services to meet some of the most pressing challenges IT managers face as they struggle to meet today's hot IT issues of cost, complexity, and compliance. VeriSign is offering that overlay of intelligent infrastructure services essential to providing seamless, transparent interoperability among various network functions, clearing away obstacles to completing large IT projects that drive competitiveness.

Ultimately this vision and experience can pay significant dividends to enterprise IT managers who understand the potential of an Internet-based network overlaid by intelligent infrastructure services.

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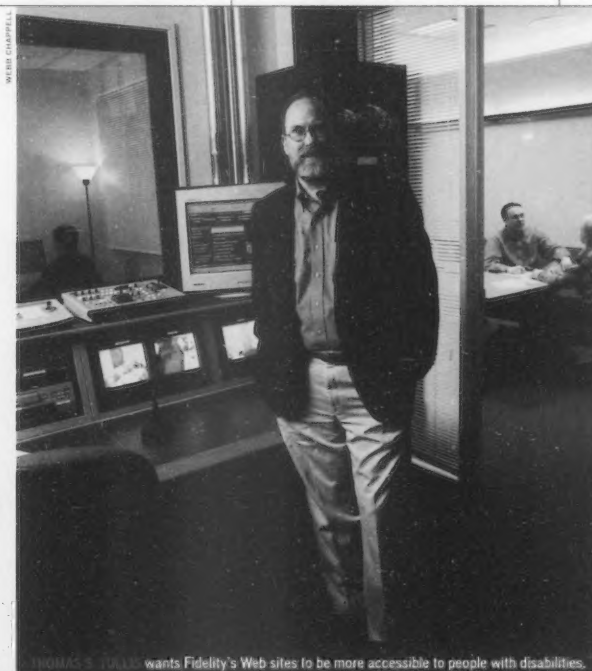
More and more companies are using Web services to access data from old systems for use in new applications. **Page 38**

## FUTURE WATCH Intel Goes to School

The chip maker is funding research labs at four major universities that are working on technologies that could change the way computers are built and used. **Page 40**

## SECURITY MANAGER'S JOURNAL Hi-Yo, Silver!

**Away With Lone Ranger**  
Among the problems C.J. Kelly has had to deal with lately are know-it-all Lone Ranger types. But she's ready with solutions. **Page 41**



THOMAS S. TULLIS wants Fidelity's Web sites to be more accessible to people with disabilities.

inaccessibility go beyond lost revenues. JoAngela Morin, team leader at Verizon Communications Inc.'s Center for Customers with Disabilities in Marlboro, Mass., says that when some members of a group are unable to access the same information or fully participate in an activity, it affects everyone involved. "A team that is driven to achieve results will be unable to meet its objectives if some members lack the same access to information that their counterparts do," she says.

This doesn't apply to only those who are traditionally considered disabled. With a significant portion of the U.S. population creeping toward Social Security age, a growing number of your employees and customers are likely to have gradually declining vision, hearing and manual dexterity. And many of those aging customers tend to be at a point in their lives when they can afford to make substantial purchases.

"A significant market is eliminated if a business has inaccessible Web presence," says Harvey Bingham, who has worked in the IT field since the 1950s and now consults on accessibility issues. "Many Web-savvy elders who have significant spending power are most comfortable shopping on the Web from home."

By incorporating accessibility standards into internal and external Web sites, companies can make it easier for those with and without disabilities to access company information and services.

## THE LAW AND THE BOTTOM LINE

There are other reasons why an organization should improve Web site accessibility. First, there's Section 508 of the Rehabilitation Act, which requires all federal agencies and companies doing business with the government to comply with certain Web site accessibility guidelines. Then there's the Americans with Disabilities Act (ADA) and similar laws.

*Continued on page 32*

# ONE SITE FITS ALL

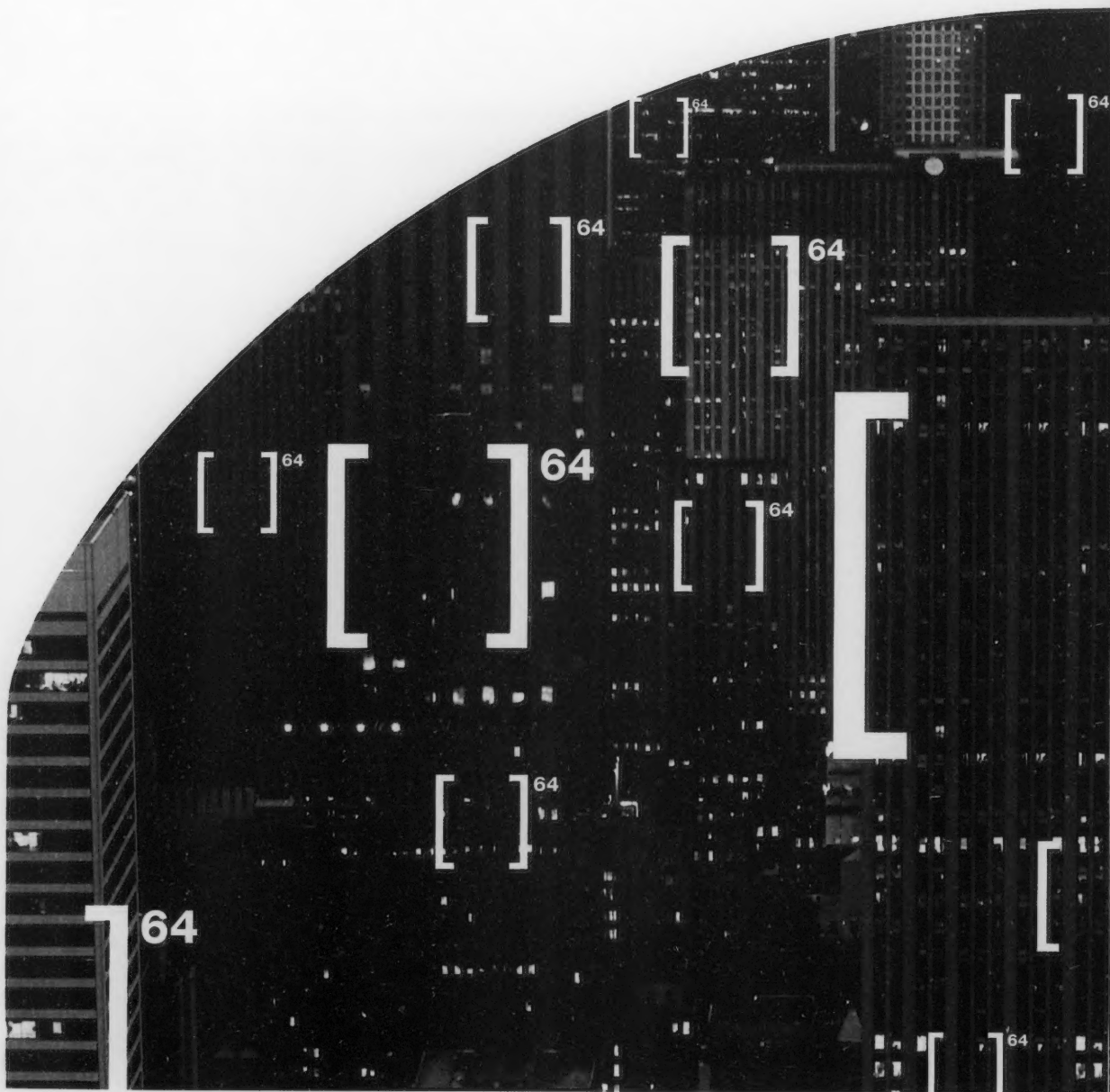
Companies are working to make their Web sites comply with accessibility guidelines because the effort translates into more customers. **By Drew Robb**

**C**OMPANIES, governments and educational institutions are continually moving more of their activities online as a way to improve service and productivity while cutting costs. But that approach works only if customers and employees can access the online data and services. Barriers to access can slash productivity and slam the door on potential customers.

"There is a large group of people who we would like to have as our customers (who have disabilities), and we would like to be able to interact with them electronically through our Web site," says Thomas S. Tullis, senior vice president of human interface design at Fidelity Investments in Boston.

And the ramifications of Web

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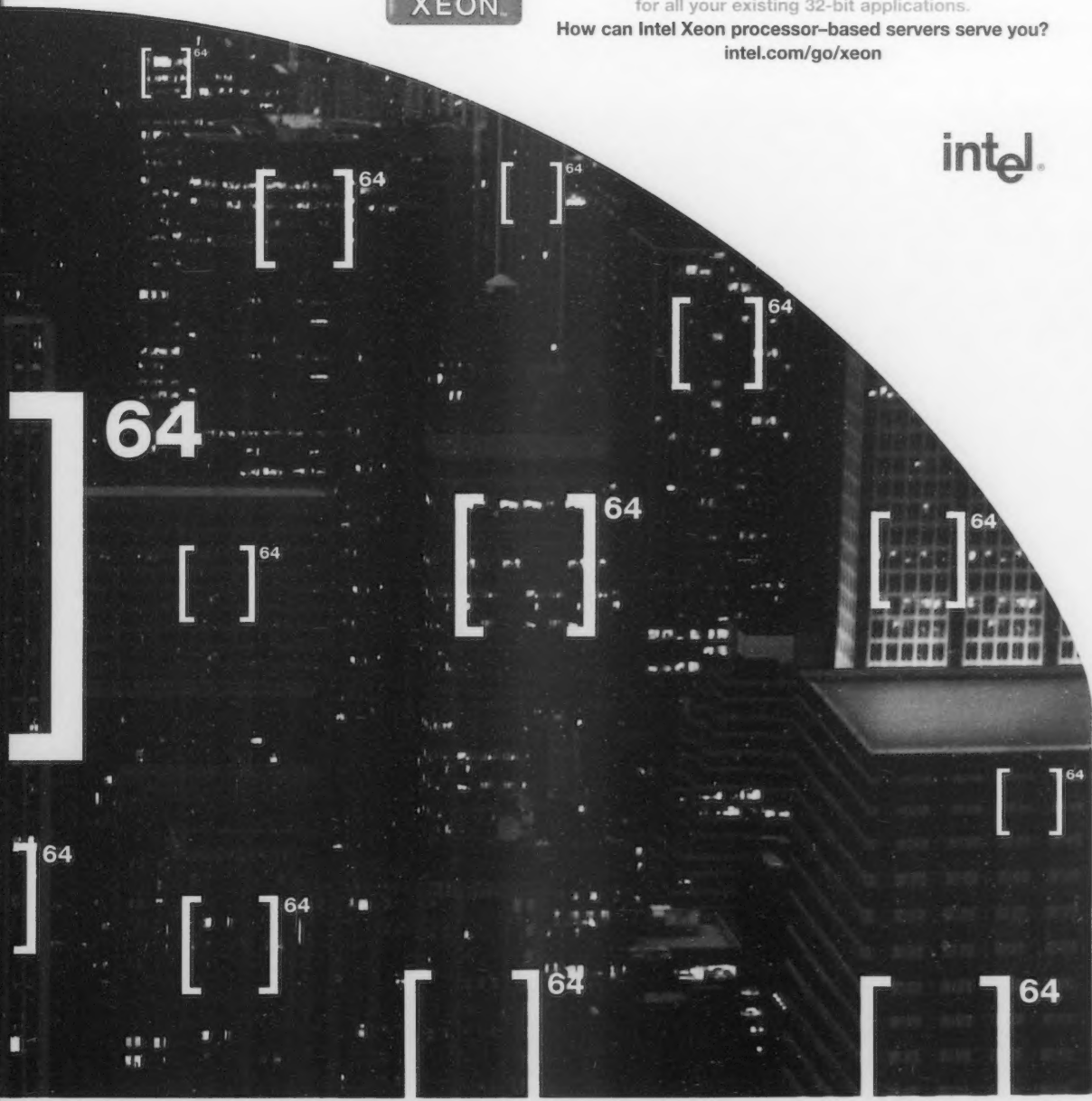
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Continued from page 29

In 2002, a federal judge in Florida rejected a lawsuit contending that Southwest Airlines Co.'s Web site violated the ADA [QuickLink 34176], but New York State Attorney General Eliot Spitzer last year extracted settlements from Ramada.com and Priceline.com Inc. More such cases are likely to follow.

This trend toward making sites more accessible isn't limited to the U.S. Peter Quon, test lead at The Eclipse Group, a Deloitte Touche Tohmatsu subsidiary in Australia that specializes in Web design, reports that his firm was seeing a large increase in demand for more-accessible sites over the past few years and that demand was adding 5% to 10% to the time spent on design and development. To help streamline matters, Eclipse brought in Andrew Arch, a member of the World Wide Web Consortium's (W3C) Web Accessibility Initiative (WAI) and an employee of the National Information Library Service in Kooyong, Australia.

"Accessibility guidelines can seem confusing, but once you break them down, it shouldn't be that difficult," Quon says. "After the initial learning curve, a confident level of accessibility compliance can be achieved with little or no impact on the project budget or timelines."

The W3C has created a customizable kit that people can use to create a business case for improving site accessibility ([www.w3.org/wai/bcase/benefits.html](http://www.w3.org/wai/bcase/benefits.html)). It includes tips for doing things like saving bandwidth and increasing market share. But Judy Brewer, domain leader for the WAI, says that those issues are not necessarily what companies are interested in.

"When talking to representatives of major corporations, we expected them to be interested in bottom-line issues, but it was leadership and community responsibility that they were most concerned with," she says. That's not to say that companies have suddenly embraced altruism — they also see the financial benefits involved, says Brewer.

## RAISING THE STANDARD

The WAI is leading the way on the standards front. For eight years, it has worked to raise public awareness and create new standards to keep up with rapidly evolving technologies.

"Accessibility of the Web is a moving target," says Brewer. "In 1997, the Web was much simpler. Now there has been a great proliferation of rich media and different content formats."

The WAI offers the following accessibility guidelines:

## TIPS FROM THE W3C

The World Wide Web Consortium offers these tips for companies that want to make their Web sites more accessible.

■ **IMAGES AND ANIMATIONS.** Use the "Alt" attribute to describe the function of each visual element.

■ **IMAGE MAPS.** Use a client-side MAP element and text for hot spots.

■ **MULTIMEDIA.** Provide captions and transcripts for audio content and descriptions of video content.

■ **HYPERTEXT LINKS.** Use text that makes sense when read out of context. For example, avoid "click here."

■ **PAGE ORGANIZATION.** Use headings, lists and a consistent structure. Use Cascading Style Sheets for layout and style where possible.

■ **GRAPHS AND CHARTS.** Summarize or use the "Longdesc" attribute.

■ **SCRIPTS, APPLETS AND PLUGINS.** Provide alternative content in case active features are inaccessible or unsupported.

■ **FRAMES.** Use NOFRAMES and meaningful titles.

■ **TABLES.** Make line-by-line reading sensible. Summarize.

■ **CHECK YOUR WORK.** Validate. Use the tools, checklist and guidelines at [www.w3.org/tr/wai-webcontent](http://www.w3.org/tr/wai-webcontent).

SOURCE: WORLD WIDE WEB CONSORTIUM

### ■ Web Accessibility Content Guidelines 1.0

governs the creation of Web content so it can be accessed and understood by people with different types of disabilities. The 14 guidelines address topics such as the use of color, alternatives to pictures or audio information, navigation and style sheets. A subset of these guidelines forms the basis of the Section 508 Web accessibility regulations and similar regulations in other countries. Version 2.0 of these guidelines, which is scheduled for release later this year, is expected to be easier to understand and apply and will deal with the more advanced technologies now in use.

■ **Authoring Tool Accessibility Guidelines 1.0** contains six guidelines addressing two areas. The first is the inclusion of features within authoring tools to make it easy to create content that conforms with accessibility standards. The other is making the authoring tools themselves usable by people with disabilities. These guidelines

are also being revised.

■ **User Agent Guidelines 1.0** addresses the software people use to access Web content, such as browsers and media players. The 12 guidelines cover the ways users can be allowed to customize the Web experience to meet individual needs, understand the page layout and navigate through it, enable device independence, and make documentation and help functions accessible.

The WAI site also offers a free tool called Validator that developers can use to evaluate Web pages against W3C standards. "It's like using a spell checker," says Brewer. "You can get an answer in 10 seconds." The WAI lists dozens of other tools, both commercial and free, at [www.w3.org/wai/er/existingtools.html](http://www.w3.org/wai/er/existingtools.html).

## USING TOOLS

Validator checks just one page at a time, but other tools can scan an entire Web site for common problems, which is critical for maintaining large sites. The University of Texas at Austin, for example, has over 2 million pages on 500 servers, with hundreds of individuals creating content.

"At a place this size with this much content, relying on a manual review of individual sites and pages won't do the job," says John Slatin, director of the school's Accessibility Institute and co-author of *Maximum Accessibility: Making Your Web Site More Usable for Everyone* (Addison-Wesley Professional, 2002).

To simplify the job, Slatin uses the WebXM suite from Watchfire Corp. in Waltham, Mass. WebXM goes beyond simply scanning to assess accessibility; it also checks for things like spelling errors, missing graphics, broken links and violations of privacy policies. Using this tool to identify common problems helps personnel decide which problems to address first, he says.

"If it shows you have 200 URLs, all of which have the same accessibility problem at the same line in the code, you have a template problem," says Slatin. "You can spend a lot of time fixing a single page no one ever visits or spend a relatively small amount of time fixing a template used by hundreds of thousands of pages."

Although automated tools make the job easier, there are still human aspects to usability and accessibility that can't be detected in a scan of HTML. Tullis uses Watchfire's Bobby and the federal government's STEP508 tool [QuickLink a5620] to analyze Fidelity's sites.

He says those tools are useful but don't do enough.

"I have learned that those tools don't always show you an accurate picture," he explains. "It is very enlightening when you watch someone who actually has those problems use the site."

At Fidelity's Center for Applied Technology, Tullis and his colleagues have been conducting tests with people who have low vision. He says that Web site accessibility research has concentrated on the needs of people who are blind or use assistive technologies. But there are far more people who have low vision, and their needs have not been adequately researched, says Tullis.

His team's findings are incorporated into Fidelity's Web sites. The company is conducting user tests with reverse contrast on screens, and it has a prototype site that supports font scaling over a wider range than normal. In addition to the obvious items like improving readability, Tullis' team has discovered other ways to enhance the user experience.

"One thing we found was that older adults were reluctant to click on a link unless they can predict what will occur," he says. "If we put in more action words — go to accounts instead of just accounts — they are more likely to click on them."

BMC Software Inc. in Houston had similar experiences when Web-enabling its Remedy help desk software. Remedy can be used with screen readers for people who are completely blind and with high-contrast and large-font screens for people with low vision.

It can also be used with a keyboard instead of a mouse. BMC turned to San Francisco-based SSB Technologies Inc. for help setting up tests with blind users.

One thing the tests revealed was that certain forms needed to be redesigned for faster use in areas such as high-volume call centers.

"It's the subtle things that will get you," said Rick Fitz, director of product management at BMC. "You can't just read the 508 specification and build a useful site off it."

But the payoff is there. As the U.S. population continues to age, the only way to remain competitive is to ensure that older people can continue to access your online workspace or storefront. **Q 53160**

Robb is a Computerworld contributing writer in Los Angeles. Contact him at [drewrobb@attbi.com](mailto:drewrobb@attbi.com).

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| 10:00am – 8:00pm | Registration Open                            |
| Noon – 5:00pm    | <b>Golf Outing</b>                           |
| 1:30pm – 3:20pm  | <b>Concurrent Industry Pipeline Sessions</b> |
| 3:30pm – 5:00pm  | <b>Technology Workshop</b>                   |
| 6:00pm – 8:00pm  | <b>Welcome Reception</b>                     |

#### TUESDAY, JUNE 14

- |                   |  |
|-------------------|--|
| 7:30am – 7:00pm   | Registration Open  |
| 7:00am – 8:00am   | Buffet Breakfast   |
| 8:15am – 9:00am   | <b>Opening Visionary Presentation</b>  |
| 9:00am – 9:30am   |  <b>End User Case Study</b><br>Phiroz Darukhanavala, CTO, British Petroleum                     |
| 9:30am – 10:00am  | <b>End User Case Study</b>   |
| 10:00am – 10:15am | Break  |
| 10:15am – 10:45am | <b>Industry Leader Presentation</b>  |
| 10:45am – 11:15am |  <b>End User Case Study</b><br>Andres Carvalho, Chief Information Officer, Austin Energy        |
| 11:15am – Noon    | <b>Panel Discussion</b>  |
| Noon – 1:30pm     | Luncheon   |
| 1:30pm – 3:15pm   | <b>General Sessions</b>  |
| 3:15pm – 3:45pm   |  <b>End User Case Study</b><br>Dale Frantz, Chief Information Officer, Auto Warehousing Company |
| 3:45pm – 4:00pm   | Break  |
| 4:00pm – 5:15 pm  | <b>Concurrent End User Case Studies</b>  |
| 5:30pm – 8:00pm   | <b>Solutions Showcase &amp; Expo with Buffet Dinner</b>  |



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## WEDNESDAY, JUNE 15

- 7:30am - 7:00pm Registration Open
- 7:00am - 8:00am Buffet Breakfast
- 8:15am - Noon **General Sessions**
- Noon - 1:30pm **Solutions Showcase & Expo with Lunch**
- 1:30pm - 2:00pm **End User Case Study**
- 2:00pm - 2:30pm  **End User Case Study**  
Ernest Park, Chief Information Officer,  
Maytag Corporation
- 2:30pm - 2:45pm Break
- 2:45pm - 3:15pm **End User Case Study**
- 3:15pm - 3:45pm  **End User Case Study**  
Ron Fijalkowski, Chief Information Officer,  
Strategic Distribution Incorporated
- 3:45pm - 4:00pm Break
- 4:00pm - 5:30pm **Concurrent End User Case Studies**
- 5:30pm - 8:00pm **Pre-Gala Reception, "Best Practices" Awards Ceremony, and Gala Evening with Dinner**

"... information and contacts gathered! ... play into the decision we make on our future products and strategy ..."

Tom Dillon  
Manager, Mobile & Wireless  
Hilton Hotels



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Mike Taylor  
CIO  
Todd Pacific Shipyards



**Got an award-worthy mobile and wireless project?**

Submit it for consideration by May 2nd!  
Visit [www.mwwusa.com/cwt](http://www.mwwusa.com/cwt)

2005 Awards Program sponsored by 



**Kierland Golf Club**  
Scottsdale, Arizona

### Pre-Conference Golf Outing Complimentary for Registered IT Users

The Pre-Conference Golf Outing at the Kierland Golf Club located adjacent to the Westin Kierland Resort, is complimentary (\$125 value) for registered IT End-Users (other participants, including sponsors and vendors, may play on an "as available" basis and are responsible for all applicable golf outing expenses).

For details contact Chris Johnson at 1-508-820-8652



**The Westin Kierland Resort**  
Scottsdale, Arizona

### Hotel Reservations and Travel Services

To reserve your accommodations, please visit:  
[www.etccentral.com](http://www.etccentral.com)

If you have questions about accommodations, please contact Global Odysseys at:

1-888-254-1597



For more information and to register, visit [www.mwwusa.com/cwt](http://www.mwwusa.com/cwt) or call 1-800-883-9090

# IT End-User\* Conference Registration Application

COMPUTERWORLD

Fax this completed application to 1-508-820-8254. Or apply online at: [www.mwwusa.com/cwt](http://www.mwwusa.com/cwt)



June 13-15, 2005  
The Westin Kierland Resort  
Scottsdale, Arizona

## Your business card is REQUIRED to process your application

Please affix your business card to this space prior to submitting your application. Applications submitted without business cards will not be processed.

Questions? Call 1-800-883-9090

If not indicated on your business card, please provide the following required information:

Corporate Email Address

Corporate Website

Registration questions? Call 1-800-883-9090 or email: [mwwreg@computerworld.com](mailto:mwwreg@computerworld.com)

Need accommodations? Reserve them at: [www.etcentral.com](http://www.etcentral.com) or call 1-888-254-1597 or email: [eventhousing@globalodysseys.com](mailto:eventhousing@globalodysseys.com)

All dollar amounts are in U.S. funds; registrations include full access to all sessions, the Expo, meals and receptions. Transportation and hotel accommodations are your responsibility. Computerworld reserves the right to limit and/or refuse any registration for any reason.

Earlybird Registration  
(through May 2, 2005)

Full/Onsite Registration  
(after May 2, 2005)

☐ I am an IT End-User:\*

☐ \$995

☐ \$1,295

\*IT End-Users are defined as those who are attending Computerworld's Mobile & Wireless World with an intent (and an IT spending budget) to potentially buy/lease hardware/software/services, etc. from our conference sponsors and are not themselves an IT vendor. As such, account representatives, business development personnel, analysts, consultants and anyone else attending who does not have IT purchasing influence within their organization are excluded from the "IT End-User" designation. Interpretation and enforcement of this policy are at the sole discretion of Computerworld. Questions? Please call 1-800-883-9090.

NOTE: If you are not an IT End-User, you may register as a Non-Sponsoring Vendor

☐ I am a Non-Sponsoring Vendor:\*\*

☐ \$5,000

☐ \$5,000

\*\*Vendors are encouraged to participate in Computerworld's Mobile & Wireless World through sponsorship. (Details are available by calling John Amato at 1-508-820-8279). Alternatively, vendors (as well as other "non-IT end-user" professionals as defined by Computerworld), may apply for registration at the "non-sponsoring vendor" rate. Determination of what constitutes a "non-sponsoring vendor" registration is at the sole discretion of Computerworld.

## Attendee Profile: (This section must be completed in order to process your application)

### Your Business/Industry

- ☐ Aerospace
- ☐ Manufacturing & Process Industries (non-computer related)
- ☐ Finance/Banking/Accounting
- ☐ Insurance/Real Estate/Legal Services
- ☐ Government: Federal (including Military)
- ☐ Government: State or Local
- ☐ Health/Medical/Dental Services
- ☐ Retailer/Wholesale/Distributor (non-computer related)
- ☐ Transportation/Utilities
- ☐ Communication Carriers (ISP, Telecom, Data Comm, TV/Cable)
- ☐ Construction/Architecture/Engineering
- ☐ Data Processing Services
- ☐ Education
- ☐ Agriculture/Forestry/Fisheries
- ☐ Mining/Oil/Gas
- ☐ Travel/Hospitality/Recreation/Entertainment
- ☐ Publishing/Broadcast/Advertising/Public Relations/Marketing
- ☐ Research/Development Lab
- ☐ Business Services/Consultant (non-computer related)
- ☐ Manufacturing of Computers, Communications, Peripheral Equipment or Software

### Your Job Title/Function:

#### IT MANAGEMENT

- ☐ CIO, CTO, CSO
- ☐ Executive VP, Senior VP
- ☐ Vice President
- ☐ Director
- ☐ Manager/Other IT Manager
- ☐ Supervisor

#### BUSINESS MANAGEMENT

- ☐ CEO, COO, Chairman, President
- ☐ CFO, Controller, Treasurer
- ☐ Executive VP, Senior VP, VP, General Manager
- ☐ Director, Manager
- ☐ Other Corporate/Business Manager
- ☐ Other

### Number of employees in your entire organization (ALL locations)

- ☐ 20,000 or more
- ☐ 10,000 - 19,999
- ☐ 5,000 - 9,999
- ☐ 1,000 - 4,999
- ☐ 500 - 999
- ☐ 100 - 499
- ☐ Less than 100

### What is the estimated annual revenue of your entire organization?

- ☐ Over \$10 Billion
- ☐ \$1 Billion - \$9.9 Billion
- ☐ \$500 Million - \$999.9 Million
- ☐ \$100 Million - \$499.9 Million
- ☐ Less than \$100 Million

### What is your organization's annual IT/IS budget for all IT/IS products?

- ☐ \$1 Billion or more
- ☐ \$500 Million - \$999.9 Million
- ☐ \$100 Million - \$499.9 Million
- ☐ \$50 Million - \$99.9 Million
- ☐ \$10 Million - \$49.9 Million
- ☐ \$1 Million - \$9.9 Million
- ☐ \$500,000 - \$999,999
- ☐ \$250,000 - \$499,999
- ☐ \$100,000 - \$249,999
- ☐ Less than \$100,000
- ☐ None

### The one item that best describes your involvement in the IT purchase process

- ☐ Authorize/approve purchase
- ☐ Evaluate/recommend products, brands, vendors
- ☐ Specify features/technical requirements
- ☐ Set budget for expenditures
- ☐ Determine need to purchase
- ☐ Create IT strategy
- ☐ All of the above

### What is your organization's most mission critical Mobile/Wireless development/implementation project this year?

- ☐ Deploying Wireless Mobility in the Enterprise
- ☐ Transforming the "Back and Forth" Enterprise
- ☐ Business Evolution through Mobilizing Field Workers
- ☐ Managing Cellular Mobile Data
- ☐ Securing Wireless LANs

### What is your organization's most mission critical OVERALL development/implementation project this year?

- ☐ Business Intelligence/BPM/Custom Analytics
- ☐ Data Management
- ☐ Mobile & Wireless
- ☐ Enterprise Infrastructure/Data Center Buildout/Consolidation
- ☐ Network Infrastructure/Storage
- ☐ Security
- ☐ Application Development and Integration (Web Services/EAI)
- ☐ Compliance

### Would you like to receive information about playing in the golf outing on Monday, June 13th?

- ☐ Yes
- ☐ No

### Do you need hotel accommodations?

- ☐ Yes (please visit [www.etcentral.com](http://www.etcentral.com) to reserve)
- ☐ No

### Would you like to receive a complimentary subscription to Computerworld?

- ☐ Yes
- ☐ I already receive a subscription addressed to me personally
- ☐ No

### Special services required?

- ☐ Yes (please attach a written description)
- ☐ No

## Payment Method

- ☐ Check (checks must be received by May 2, 2005 payable to: Computerworld)  
Mail to: Computerworld, Attn: Mike Barbato, One Speen Street, Framingham, MA 01701
- ☐ American Express ☐ VISA ☐ MasterCard

Account Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Card Holder Name: \_\_\_\_\_

Signature of Card Holder: \_\_\_\_\_

### Cancellation Policy (All of the following require written notification by May 2, 2005)

In the event of cancellation, the registrant has three options:

- 1) He or she may substitute another attendee for this conference.
- 2) He or she may transfer this registration to the Mobile & Wireless World conference.
- 3) The registration fee will be refunded, less a \$250 service charge (if written notice is received by May 2, 2005).

Please send cancellation requests via email to: [mwwreg@computerworld.com](mailto:mwwreg@computerworld.com)

COMPUTERWORLD PREMIER 100 IT LEADERS 2006

# Don't Miss Your Chance!

COMPUTERWORLD  
**100**  
PREMIER  
**100**  
IT LEADERS 2006

Nominate an outstanding IT leader for Computerworld's Premier 100 IT Leaders 2006 Awards program

EACH YEAR, *Computerworld* editors conduct a nationwide search for IT managers and executives who show technology leadership in their organizations. This prestigious awards program recognizes and honors IT professionals from a wide range of industries, drawing attention to the

innovative, business-critical work they do.



ELIGIBLE NOMINEES include CIOs, CTOs, vice presidents, IT directors and managers from user companies, nonprofits, the computer industry and the public sector.

HONOREES will be announced in *Computerworld*'s Dec. 12, 2005, issue and will be our guests at the 7th Annual Premier 100 IT Leaders Conference, March 5-7, 2006, in Palm Desert, Calif.

## Who Qualifies?

IT managers and executives who

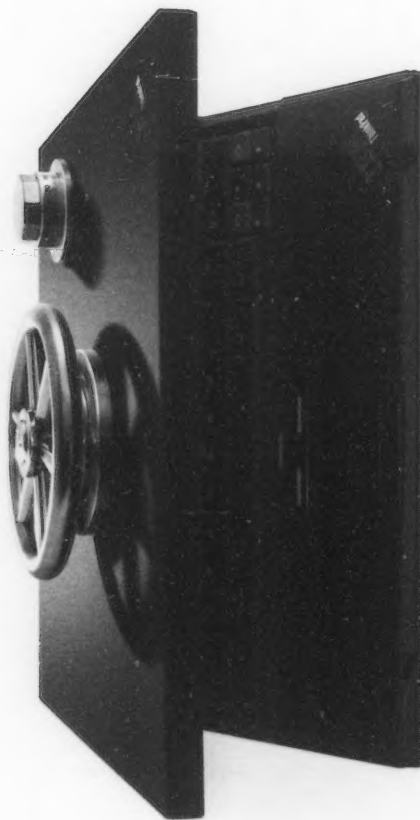
- Effectively manage IT and business strategies
- Envision innovative approaches to business problems
- Foster great ideas and creative work environments
- Excel at vendor and supplier management
- Take calculated risks and learn from failure

## Deadline for Nominations Is May 31

Go online to nominate an IT leader at [computerworld.com/p100nominations](http://computerworld.com/p100nominations) or QuickLink a3420.

Questions? Contact us by e-mail at [premier100@computerworld.com](mailto:premier100@computerworld.com).

IBM recommends Microsoft® Windows® XP Professional.



IBM ThinkPad R Series  
(model not featured)

#### GO with IBM Think Express Program

IBM Think Express models are configured and priced  
with small to medium-size businesses in mind.

IBM rated #1 in tech support for desktops  
and notebooks by PC Magazine readers.  
PC Magazine 17th Annual Reader  
Satisfaction Survey – July 14, 2004

**\*Availability:** All offers subject to availability. IBM reserves the right to alter product offerings and specifications at any time, without notice. IBM is not responsible for photographic or typographic errors. **\*Pricing:** does not include tax or shipping and is subject to change without notice. Reseller prices may vary. Starting price may not include a hard drive, operating system or other features. Price may include applicable discounts. **Warranty:** For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept JDJA/B203. IBM makes no representation or warranty regarding third-party products or services. **Footnotes: (1) Embedded Security Subsystem:** requires software download. **(2) Mobile Processor:** Power management reduces processor speed when in battery mode. **(3) Wireless 11a, 11b and 11g:** based on IEEE 802.11a, 802.11b and 802.11g, respectively. An adapter with 11a/b, 11b/g or 11a/b/g can communicate on either or any of these listed formats respectively; the actual connection will be based on the access point to which it connects. **(4) Included software:** may differ from its retail version (if available) and may not include user manuals or all program functionality. License agreements may apply. **(5) Memory:** For PCs without a separate video card, memory supports both system and video. Accessible system memory is up to 64MB less than the amount stated, depending on video mode. **(6) Hard drive:** GB = billion bytes. Accessible capacity is less; up to 4GB is service partition. **(8) Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges. **(9) ServicePac services:** are available for machines normally used for business, professional or trade purposes, rather than personal, family or household purposes. Service period begins with the equipment date of purchase. Service levels are response-time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), IBM will express ship





## Put a solid barrier between your wireless PC and thieves. Select IBM wireless

ThinkPad® notebooks, like the ThinkPad X40 featured to the right, offer an added layer of data protection — a vaultlike combination of a built-in security chip and sophisticated data encryption software.<sup>1</sup> In fact, it's so advanced, it actually makes data unreadable if tampered with. And only IBM offers PCs with this level of security as a standard feature. Plus, with Intel® Centrino™ Mobile Technology and on-the-fly folder encryption, users can work wherever they please, knowing that their data will be protected. No matter who's lurking around. **Instead of a welcome mat.**

Embedded Security Subsystem. Only on a ThinkPad.

Contact your IBM Business Partner or go to  
**ibm.com/shop/m558** to locate the nearest reseller.



### IBM ThinkPad G41 Ultimate Value

#### Distinctive IBM Innovations:

- IBM Rescue and Recovery™ – One-button recovery and restore solution
- Access IBM – IBM help at your fingertips

#### System Features:

- Mobile Intel® Pentium® 4 Processor 532 (3.06GHz)<sup>2</sup> with HT Technology
- Microsoft Windows XP Home Edition<sup>4</sup>
- 14.1" XGA TFT display (1024x768)
- 128MB DDR SDRAM<sup>5</sup>
- 30GB hard drive<sup>6</sup>
- CD-ROM
- ComfortSlant keyboard
- EasyPivot base
- 1-yr system/battery limited warranty<sup>8</sup>

NavCode 288157U-M558

MODEL PRICED AT **\$999\***

\$36/mo for 36 months  
SuccessLease for Small Business<sup>9</sup>  
ServicePac<sup>®</sup> Service Upgrade:<sup>8</sup>  
3-yr Depot Repair #30L9192 **\$132**

### IBM ThinkPad X40 Our thinnest and lightest

#### Distinctive IBM Innovations:

- IBM Embedded Security Subsystem 2.0
- IBM Rescue and Recovery™ – One-button recovery and restore solution

#### System Features:

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor ULV 713 (1.10GHz)
- Intel® PRO/Wireless Network Connection 802.11b/g<sup>1</sup>
- Microsoft Windows XP Professional
- 12.1" XGA TFT display (1024x768)
- 256MB DDR SDRAM
- 20GB hard drive
- Integrated Gigabit Ethernet and modem
- Legendary IBM full-size keyboard<sup>10</sup>
- Only .94" thin<sup>11</sup>
- 2.7-lb travel weight<sup>12</sup>
- 1-yr system/battery limited warranty<sup>8</sup>

NavCode 2386A4U-M558

THINK EXPRESS MODEL PRICED AT **\$1,499\***

\$54/mo for 36 months  
SuccessLease for Small Business

the part to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. For ThinkPad notebooks requiring LCD or other component replacement, IBM may choose to perform service at the depot repair center. Calls must be received by 5pm local time in order to qualify for Next Business Day service. (10) Full-size keyboard: As defined by ISO/IEC 15412. (11) Thinness: may vary at certain points on the system. (12) Travel weight: includes battery and optional travel bezel instead of standard optical drive in Ultrabay bay, if applicable; weight may vary due to vendor components, manufacturing process and options. (19) SuccessLease: SuccessLease program, rates and terms are provided by third-party financiers approved by IBM Global Financing to credit-qualified business customers installing in the U.S. Featured monthly lease payments based on prespecified end-of-lease purchase option; documentation fee and first month's payment due at lease signing; taxes are additional. Options cannot be leased separately. IBM and IBM Global Financing reserve the right to alter product offerings, specifications or financing terms at any time, without notice. Trademarks: The following are trademarks or registered trademarks of IBM Corporation: IBM, the IBM logo, Rapid Restore, Rescue and Recovery, ThinkPad, Ultrabay, UltraConnect and UltraNav. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, Intel Xeon, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Intel SpeedStep and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other company, product and service names may be trademarks or service marks of other companies. © 2005 IBM Corporation. All rights reserved. Visit [www.ibm.com/pc/salecomputing](http://www.ibm.com/pc/salecomputing) periodically for the latest information on safe and effective computing.

Take a look at some of our latest models. And get state-of-the-art security.



#### Why IBM ThinkPad Notebooks?

To make IBM ThinkPad® notebooks even more valuable, each one featured here can give you the efficiency, productivity and edge you need and comes with all the following ThinkVantage™ Technologies:

**IBM Active Protection System:** Butterfingers unite! Select IBM ThinkPad notebooks now include airbag-like technology to help protect your hard drive from some damage caused by drops and jolts.

#### IBM Rescue and Recovery:

Lost your data because of a software crash or virus? Recover previously saved data in minutes with our one-button solution.

#### IBM Access Connections:

Switch between wired and wireless connections.

#### IBM Embedded Security Subsystem 2.0:<sup>1</sup>

Hackers and thieves, beware. Our combined hardware and software solution is designed to protect user data and keep it private.

#### Access IBM:

Get the help you need, when you need it. One button on your ThinkPad notebook brings you a world of resources and assistance.

#### IBM ThinkPad R51

##### System Features:

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 725 (1.60GHz)<sup>2</sup>
- Intel® PRO/Wireless Network Connection 802.11b/g
- Microsoft Windows XP Professional<sup>4</sup>
- 15" XGA TFT display (1024x768)
- 256MB DDR SDRAM<sup>5</sup>
- 30GB hard drive<sup>6</sup>
- Integrated Ethernet and modem
- IBM Ultrabay™ Enhanced CD-RW/DVD-ROM combo
- IBM UltraConnect™ Antenna for increased signal strength
- 1-yr system/battery limited warranty<sup>8</sup>

NavCode 2883GKU-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$1,299\***

\$47/mo for 36 months

SuccessLease for Small Business™

NavCode® Get the latest pricing and information fast. Use NavCode on the phone or on the Web.



#### IBM ThinkPad T42

##### System Features:

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 725 (1.60GHz)
- Intel® PRO/Wireless Network Connection 802.11b/g
- Microsoft Windows XP Professional
- 14.1" XGA TFT display (1024x768)
- 32MB ATI Mobility RADEON 7500 graphics
- 256MB DDR SDRAM
- 30GB hard drive
- Integrated Gigabit Ethernet and modem
- IBM Ultrabay Slim DVD-ROM
- IBM UltraConnect Antenna for increased signal strength
- 1-yr system/battery limited warranty<sup>8</sup>

NavCode 2378R3U-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$1,499**

\$54/mo for 36 months

SuccessLease for Small Business

ServicePac Service Upgrade<sup>12</sup>:

3-yr Depot Repair #30L9192 **\$132**

#### IBM ThinkPad T42

##### IBM ThinkVantage Technologies:

- Integrated Fingerprint Reader – Your passwords at the tip of your finger.

##### System Features:

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 745 (1.80GHz)
- Intel® PRO/Wireless Network Connection 802.11b/g
- Microsoft Windows XP Professional
- 15" XGA TFT display (1024x768)
- 32MB ATI Mobility RADEON 7500 graphics
- 512MB DDR SDRAM
- 40GB hard drive
- Integrated Gigabit Ethernet and modem
- IBM Ultrabay Slim CD-RW/DVD-ROM combo
- IBM UltraConnect Antenna for increased signal strength
- 3-yr system/1-yr battery limited warranty<sup>8</sup>

NavCode 2379R8U-M558

THINK EXPRESS MODEL  
PRICED AT:

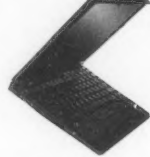
**\$1,999**

\$72/mo for 36 months

SuccessLease for Small Business

ServicePac Service Upgrade:

4-yr Onsite Repair/9x5/Next Business Day Response #69P9198 **\$299**



#### IBM ThinkPad X40

##### IBM ThinkVantage Technologies:

- Longest standard battery life of any leading-brand Ultra portable<sup>7</sup>

##### System Features:

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor ULV 738 (1.40GHz)
- Intel® PRO/Wireless Network Connection 802.11b/g
- Microsoft Windows XP Professional
- 12.1" XGA TFT display (1024x768)
- Intel Extreme Graphics 2
- 256MB DDR SDRAM
- 40GB hard drive
- Integrated Gigabit Ethernet and modem
- Legendary IBM fullsize keyboard<sup>9</sup>
- Up to 7.0-hr Li-Ion battery<sup>10</sup>
- 1-yr system/battery limited warranty<sup>8</sup>

NavCode 2386E9U-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$1,749**

\$63/mo for 36 months

SuccessLease for Small Business

ServicePac Service Upgrade:

3-yr Onsite Repair/9x5/Next Business Day Response #30L9195 **\$243**

#### IBM ThinkPad X40 Solution Pack

##### IBM ThinkVantage Technologies:

- Longest standard battery life of any leading-brand Ultra portable<sup>7</sup>

##### System Features:

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor ULV 738 (1.40GHz)
- Intel® PRO/Wireless Network Connection 802.11b/g
- Microsoft Windows XP Professional
- 12.1" XGA TFT display (1024x768)
- 256MB DDR SDRAM
- 40GB hard drive
- Integrated Gigabit Ethernet and modem
- Up to 7.5-hr Li-Ion battery
- 3-yr system/1-yr battery limited warranty<sup>8</sup>

##### Accessories Included:

- ThinkPad X4 UltraBase Dock
- IBM Ultrabay Slim CD-RW/DVD-ROM combo

NavCode 2382E9U-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$2,249**

\$81/mo for 36 months

SuccessLease for Small Business

ServicePac Service Upgrade:

5-yr Onsite Repair/9x5/Next Business Day Response #69P9200 **\$449**



(Monitor not included)

#### Why IBM ThinkCentre PCs?

Only IBM offers these features to protect your users, connect them, and keep them working. Each ThinkCentre™ desktop featured here can give them the efficiency, productivity and edge they need with the following ThinkVantage Technologies:

#### Rescue and Recovery:

Lost your data because of a software crash or virus? Recover previously saved data in minutes with our one-button solution.

#### Access IBM:

Get the help you need, when you need it. One button on your ThinkCentre desktop brings you a world of IBM resources and assistance.

#### IBM ThinkCentre A50 Tower form factor

##### IBM ThinkVantage Design:

- Toolless cover and hard drive removal

##### System Features:

- Intel® Pentium® 4 Processor with HT Technology 3GHz
- Microsoft Windows XP Professional
- Intel® Extreme Graphics 2
- 256MB DDR PC3200<sup>3</sup>
- 40GB hard drive • CD-ROM
- 6 USB 2.0 Ports (2 on front)
- IBM Preferred Pro Keyboard
- IBM USB Optical Wheel Mouse
- Integrated SoundMAX Cadenza audio solution
- Integrated 10/100 Ethernet
- Norton AntiVirus™ with 90 days of virus definition updates
- Lotus® SmartSuite® Millennium license
- 1-yr parts limited warranty with 1-yr limited onsite service<sup>11</sup>

NavCode 814821U-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$639**

\$23/mo for 36 months

SuccessLease for Small Business

<sup>1</sup>**Availability:** All offers subject to availability. IBM reserves the right to alter product offerings and specifications at any time, without notice. IBM is not responsible for photographic or typographic errors. <sup>2</sup>**Pricing:** does not include tax or shipping and is subject to change without notice. Reseller prices may vary. Starting price may not include a hard drive, operating system or other features. Price may include applicable discounts. <sup>3</sup>**Warranty:** For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709. Attn: Dept. JDA/B203. IBM makes no representation or warranty regarding third-party products or services. <sup>4</sup>**Footnotes:** (1) **Embedded Security Subsystem:** requires software download. (2) **Mobile Processors:** Power management reduces processor speed when in battery mode. (3) **Wireless 11a, 11b and 11g:** based on IEEE 802.11a, 802.11b and 802.11g, respectively. An adapter with 11a/b, 11b/g or 11a/b/g can communicate on either or any of these listed formats respectively; the actual connection will be based on the access point to which it connects. (4) **Included software:** may differ from its retail version (if available) and may not include user manuals or all program functionality. License agreements may apply. (5) **Memory:** For PCs without a separate video card, memory supports both system and video. Accessible system memory is up to 64MB less than the amount stated, depending on video mode. (6) **Hard drive:** GB = billion bytes. Accessible capacity is less; up to 4GB is service partition. (7) **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges. (8) **ServicePac services:** are available for machines normally used for business, professional or trade purposes, rather than personal, family or household purposes. Service period begins with the equipment date of purchase. Service levels are response-time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), IBM will express ship the part to you for quick replacement. Onsite 24x7-hour service is not available in all locations. For ThinkPad notebooks requiring LCD or other component replacement, IBM may choose to perform service at the depot repair center. Calls must be received by 5pm local time in order to qualify for Next Business Day Service. (14) **Full-size keyboard:** As defined by ISO/IEC 15412. (15) **Battery:** These model numbers achieved the Ziff Davis Media, Inc.'s Business Winstone® 2002 BatteryMark™ Version 1.0 Battery Runtime Time of at least the time shown. This test was performed

## IBM recommends Microsoft® Windows® XP Professional.



(Monitor not included)

### IBM ThinkCentre A50 Ultra small form factor

#### System Features:

- Intel® Pentium® 4 Processor with HT Technology 3GHz
- Microsoft Windows XP Professional
- Intel® Extreme Graphics 2
- Ultra small form factor – 74% smaller than a standard IBM desktop™
- 256MB DDR PC3200
- 40GB hard drive • CD-ROM
- Gigabit-Ethernet Integrated
- Norton AntiVirus with 90 days of virus definition updates
- Lotus SmartSuite Millennium license
- 1-yr limited warranty with 1-yr limited onsite service¹

NavCode 809021U-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$759**

\$27/mo for 36 months  
SuccessLease for Small Business  
ServicePac Service Upgrade:  
3-yr Onsite/9x5/Next Business Day  
Response #54P1861 **\$132**

### IBM ThinkCentre A51p Tower form factor (model not shown)

#### System Features:

- Intel® Pentium® 4 Processor 530 with HT Technology
- Processor speed 3GHz
- 800MHz FSB
- Microsoft Windows XP Professional
- Intel® Graphics Media Accelerator 9000
- 256MB DDR2 PC2-3200
- 40GB hard drive • CD-RW
- Gigabit Ethernet-integrated
- IBM Embedded Security Subsystem 2.0
- 1-yr limited warranty with 1-yr limited onsite service¹

NavCode 842721U-M558

THINK EXPRESS MODEL  
PRICED AT:

**\$799**

\$29/mo for 36 months  
SuccessLease for Small Business  
ServicePac Service Upgrade:  
3-yr Onsite/9x5/4-hr Response  
#54P1862 **\$239**



### IBM eServer xSeries® 226

#### System Features:

- IBM ServeRAID™-7e features integrated RAID-0 or -1 standard
- IBM Director and optional Remote Supervisor Adapter II for proactive remote management for distributed environments
- Intel® Xeon™ Processor 2.80GHz
- 1GB/16GB Std/Max
- Integrated Dual Channel U320 SCSI
- Two 36.40GB Hot Swap SCSI HDDs
- Gigabit Ethernet
- 1-yr limited warranty with 1-yr limited onsite service¹

NavCode 86480EU-M558

PRICED AT:

**\$1,919**

ServicePac Service Upgrade:  
3-yr Onsite/9x5/Next Business Day  
#96P2248 **\$229**

### IBM eServer xSeries® 236

#### System Features:

- Externally visible Light Path diagnostic panel
- Displays information about a component without interrupting system operation
- Visible without removal of system covers
- Integrated System Management Processor
- Continuously monitors your system, notifying you of potential system failures or changes
- Intel® Xeon™ Processor 2.80GHz
- 1GB/16GB Std/Max
- Integrated Dual Channel U320 SCSI
- Three 73.4GB Hot Swap SCSI HDDs
- ServeRAID™ 7k SCSI adapter
- Gigabit Ethernet
- 3-yr limited warranty with 1-yr onsite service¹

NavCode 88410EU-M558

PRICED AT:

**\$3,879**

ServicePac Service Upgrade:  
3-yr Onsite/24x7x4 hour  
#21P2084 **\$689**



### IBM eServer BladeCenter

#### System Features:

- Flexible – full performance and manageability of traditional rack optimized platforms
- Infrastructure integration – help lower TCO and increase control
- Simplify – easy to deploy, easy to install, easy to manage

#### HS20

- Intel® Xeon™ 2.80GHz/533MHz FSB
- 4GB IDE/2GB DDR2 PC2100
- 3-year limited warranty¹

NavCode 8832LEX-M558

EXPRESS MODEL PRICED AT:

**\$2,589**

#### BladeCenter Chassis

- 7U rack mount chassis – up to 14 blades per chassis
- 2000W power
- Cisco Ethernet switch module

NavCode 86773EU-M558

EXPRESS MODEL PRICED AT:

**\$7,289**

\$243/mo for 36 months  
SuccessLease for Small Business

ServicePac Service Upgrade:  
3-yr Onsite/9x5/4-hr Response  
HS20 #69P9517 **\$279**

BladeCenter Chassis #41L2736 **\$600**

### IBM eServer xSeries 336

#### System Features:

- Leading performance with Intel® Extended Memory 64 Technology – 32 and 64bit simultaneous computing
- High Availability with redundant power and hot swap fans – Calibrated Vectored Cooling enables density and performance
- Simple Management with on board service processors and optional remote management support – take control of your server environment
- Intel Xeon 2.80GHz/800MHz FSB
- Two 73GB SCSI/2GB DDR2 PC3200

NavCode 88370EU-M558

EXPRESS MODEL  
PRICED AT:

**\$3,349**

\$112/mo for 36 months  
SuccessLease for Small Business  
ServicePac Service Upgrade:  
4-yr Onsite/9x5/4-hr Response  
#69P9243 **\$609**



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We've configured and priced many of our products specifically for small and medium businesses. And best of all, they're available direct from IBM or through select IBM Business Partners.

### IBM ThinkPad Accessories

- Belkin Components Universal Notebook Travel Surge Protector #22P7127 **\$20**
- Kensington MicroSaver Security Cable Lock from IBM #73P2582 **\$39**
- IBM ThinkPad Carrying Case™ – Expander #73P3597 **\$59**
- ThinkPad T2W AG/DC Combo Adapter #22P9010 **\$99**
- ThinkPad Port Replicator II #74P6733 **\$179**

### IBM ThinkCentre Accessories

- IBM UPS 500 #33L3477 **\$99**
- IBM ThinkVision™ L170p 17" Flat Panel Monitor with system purchase #W9SPH80 **\$449**

### IBM Server Accessories

- IBM S2 42U Standard Rack Cabinet #330745X **\$1,489**
- IBM Rackmount XHV 10K UPS #21308RX **\$5,399**

**IBM**

Contact your IBM Business Partner or go to **ibm.com/shop/m558** to locate the nearest reseller.

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# Rescue Service FOR Mainframe Data

A growing number of companies are using Web services to move data from older systems into new applications. **By Heather Havenstein**

**M**AINFRAMES and legacy systems have presented IT executives with a dilemma for much of the past decade. In the race to move IT operations to the Web in the 1990s, many companies considered dumping the aging systems altogether. Yet, these "dinosaurs" usually contained mission-critical data the companies wanted to preserve and integrate into newer Web applications, and so they survived until the dot-com implosion.

Since then, many companies haven't had the resources — or often the inclination — to replace mainframes and other older IT assets that hum steadily along and are the incarnation of decades of investment. Those systems still handle high volumes of transactions — and the data they generate — securely and reliably. This leaves IT shops searching for methods to get to the data housed in the systems so that it can be used in Web-based applications — and they'd like to do it without rewriting code. Complicating the picture is the fact that mainframes were designed as discrete single functions, creating problems for companies that need to give Web-based applications access to several different silos on back-end systems.

Now, with growing corporate interest in service-oriented architectures (SOA), companies are looking at using Web services to more easily integrate data from older back-end systems such as IBM mainframes and AS/400s, Unix/OpenVMS systems and Hewlett-Packard e3000s into newer applications.

For example, construction company Shea Homes is using Web services to integrate a green-screen J.D. Edwards home-construction application running on IBM AS/400 with newer enterprise applications without having to

rely on hard coding.

Mike Little, senior technical manager at Walnut, Calif.-based Shea, says he integrated the older module in less than two weeks using tools from WRQ Inc., a process he describes as "screen scraping on steroids." Writing custom code for the integration would have taken more than four months, he adds.

Seattle-based WRQ's Verastream tools are designed to expose legacy application logic as Component Object Model (COM), Java, .Net or Web services components that can then be used in Web applications or added to newer enterprise applications like CRM systems. Verastream adapters establish communications with the host system, and integration tools allow users to point and click to abstract legacy functions as components, according to WRQ.

"It is very easy to go through and set up the navigation through the screens," Little says. "They have an automated way to take what you have created and generate a Web service without generating any custom code."

Employees at Shea can now access information from the J.D. Edwards system in real time instead of waiting for batch-processing jobs to run. And the Web services can be reused, Little says.

For example, the service that contains data needed for a sales application can be used later in an accounting spreadsheet. The company, which runs up to 50,000 transactions per day to gather data from the J.D. Edwards system, has had no performance problems with the integration, Little says.

## Ensuring Accuracy

Electric Insurance Co. in Beverly, Mass., is using technology from Neon Systems Inc. in Sugar Land, Texas, to help integrate data from its IBM CICS Transaction Server to a spreadsheet application that allows its call center employees to provide customers with real-time insurance-policy quotes.

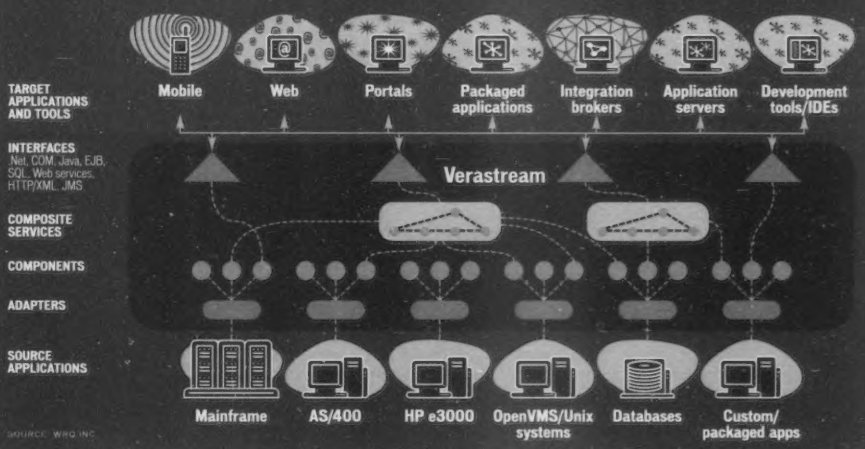
Neon's Service Builder product wraps queries from call center agents as Web services, delivers them to the CICS server and returns replies as Web services, says Steve Coyne, data warehousing specialist at Electric.

The company also needed a way to easily get discount information and data related to various state regula-



## SOA Approach

A service-oriented approach, such as this one in WRQ's Verastream, lets users access data in legacy systems via Web services and transport it to newer applications.



tions from the mainframe to the spreadsheet application. Neon's technology creates an abstraction layer to the mainframe data, evokes the data as a Web service and delivers it to the spreadsheet.

In the past, Electric Insurance used a Cobol program to build in rates. Several people, including pricing analysts and quality assurance workers, would have to open the program and build in rules to determine rates, says Coyne.

Electric first used Neon's technology in 2003 for personal umbrella policies and then added it to generate homeowners insurance price quotes. Now, the company is rolling it out for policies for General Electric Co. employees, Coyne says. "You're constantly battling other insurance companies for rates, [and] this allows the pricing department to be able to introduce a rate change or a discount quicker," he says.

### Escaping Code History

Using Web services to access data and logic from mainframes and legacy systems can often drastically reduce the time needed to integrate data into new applications, because the technology can abstract the data without requiring developers to navigate through multiple screens or sift through multiple customizations to rewrite code.

Global Home Loans Ltd., a subsidiary of Countrywide Financial Corp. in Kent, England, used WRQ technology to slash development time to six months for an integration project that,

according to the company, could have taken three to five years.

Global needed to integrate the mortgage-processing systems of London-based Barclays Bank PLC with its own systems when Barclays outsourced loan processing to Global, says James

Pierce, chief technology officer of Countrywide's global markets division.

Using Verastream, Global built a Web service interface to Barclays' mainframe to allow Global's call center to service Barclays customers, Pierce says. The bank built this abstraction

layer in front of the legacy system using WRQ tools to evoke data from the mainframe as Web services that can be passed to call center representatives.

This approach allows the company to service customers while it moves the Barclays origination and processing systems in smaller increments to its own core platform, he adds. "We were able to get to the legacy system and put in one call-center-type interface... and allow one source of entry for various transactions on those systems," he says. "That gave us several years of ROI and an incremental strategy [for the Barclay's integration], which is more successful than a big-bang effort."

This ability to "migrate while you operate" is what makes Web services so attractive to companies that need to fold data on legacy systems into applications as they gradually move to newer systems, says Phil Murphy, an analyst at Forrester Research Inc.

"Folks are finally realizing that to replace systems that took 25 to 30 years to build... will take decades," Murphy says. "With Web services, you can deliver business value immediately. As that money comes rolling in, it can be earmarked for the true infrastructure changes that may be needed down the road."

### Potential Pitfalls

Murphy notes, however, that some mission-critical mainframe applications that require responses in real time won't be able to take advantage of exposing data as Web services.

"If you need 100 gazillion transactions per second, nothing but the most highly architected solution is going to work for you," Murphy says. "But in virtually every company, at least 50% of the applications don't need that level of speed—especially for the self-service kind of applications."

In addition, integrating legacy data with Web services interfaces can create other problems for businesses, says Ron Schmelzer, an analyst at ZapThink LLC in Waltham, Mass. While most companies can usually cut integration costs by half with Web services, they may still have data-transformation issues, he says.

"Even though we can get to the mainframe, we still have not solved the problem of one application that calls a purchase order one thing and the mainframe calls it something else. I still have to solve the data-transformation issue," says Schmelzer. "We're moving the cost from managing the interface and the connection to managing the data." **Q 53176**

## Tools to Tap Legacy Data

Vendors are ramping up their product offerings to support growing enterprise interest in using Web services to integrate legacy data with newer applications.

Software AG in January announced plans to acquire Israel-based Sabretek Ltd., maker of ApplinX technology, which is designed to capture business logic at the presentation level of legacy applications. So, for example, a multistep process used to enter a customer address change into an older accounting system can be captured—preserving business logic—and turned into a Web service, says Joe Gentry, vice president of enterprise transaction systems at Germany-based Software AG. "We can modernize those systems without touching the code," he says.

In December, IBM rolled out a new version of its CICS Transaction Server software that executives say will let users extend mainframe data to service-oriented architectures. CICS Transaction Server for z/OS v3.1 will allow CICS to function as a provider and consumer of Web services, according to IBM.

Bellevue, Wash.-based Attachmate Corp., which has historically focused on terminal-

emulation technology to access data from mainframes, in February began shipping new tools that use Web services for integration. The Synapta tools are designed to ease the frustration of individual lines of business that want to give users access to mainframe data, says Michael Norring, Attachmate's vice president of SOA services.

NetManage Inc., which completed its acquisition of adapter company Librados Inc. in late 2004, is focusing on using Web services not only to access data on back-end systems but also to tie that data with data from newer applications to form composite applications.

Cupertino, Calif.-based NetManage in early March announced a new version of its OnWeb host integration product that adds support for connecting to newer back-end systems from SAP, Oracle, Siebel and PeopleSoft.

"OnWeb allows you to define a business process that runs between a number of applications that already exist and define how it will be presented out to users," according to Peter Havari-Simkin, senior vice president of strategic development at NetManage.

—Fletcher Haverstein

# Intel

## GOES TO SCHOOL

Chip maker looks to academia for ideas. By Jaikumar Vijayan

**O**N MAINE's Great Duck Island, scientists studying small sea birds called Leach's storm petrels are using a network of tiny wireless sensors embedded in the birds' nests to gather information.

The sensors, or "motes," are used to monitor environmental conditions around the nesting burrows. One day, they could form the basis for intelligent wireless networks capable of harvesting a wide range of information from their surroundings. Applications could be as diverse as agricultural management, earthquake monitoring and military operations.

A group of researchers at an Intel Corp.-funded lab at the University of California, Berkeley, is investigating that possibility and many others.

"We are trying to prototype a future in which there are many, many small sensor devices that are able to get a very fine physical sensing of the real world," says professor Joseph Hellerstein, director of the Intel lab at Berkeley.

Intel Research Berkeley is one of four university "lablets" that the chip maker set up to



identify technologies worthy of "acceleration and amplification," says Kevin Teixeira, a spokesman for Intel Research.

The other three labs are located at Carnegie Mellon University in Pittsburgh, the University of Washington in Seattle and the University of Cambridge in England.

### Berkeley

Each Intel lablet has a specific focus. At Berkeley, the focus is on what Intel calls "extremely networked systems," and the

lab is developing operating systems and programming tools for wireless sensor networks of the kind being tested on Great Duck Island.

The laboratory has already developed an operating system called TinyOS and a query-processing technology called TinyDB, which is designed to simplify the task of data collection.

Berkeley researchers are now building a suite of tools called the Tiny Application Sensor Kit (TASK), which Hellerstein says will make it easy for even nontechnical users to deploy applications using sensor networks.

TASK components include

TinyDB and several client-side tools for helping users set data collection, filtering and monitoring rules.

TinyOS runs on the sensor motes, with TinyDB acting as a sort of proxy gateway to the sensor network. TinyDB provides a SQL-like interface through which users specify the data they want extracted from the sensor network and how often they want the data.

TinyDB collects raw information from the sensors and then filters and aggregates it and sends it to a server or PC for further processing. The sensor network technology is also being tested at various other locations, including on an oil rig off the coast of northern Scotland, where it is being used to study vibration of onboard equipment.

### Cambridge

The focus of the Cambridge lab is on highly distributed applications. Derek McAuley, the lab's director, likes to describe his work as "turning-over-the-rocks" research. "You never know what you're going to find underneath," he says.

For instance, one Cambridge research team is investigating a "virtual-channel processing" technology called Xen that will enable one system to support multiple operating systems and users more efficiently than current software-based virtualization approaches can, McAuley says.

Another project involves the use of optical components for connecting internal parts in future computer systems.

Such photonics-based interconnects could offer far greater scalability and bandwidth than current Peripheral Component Interconnect-based technologies, McAuley says. "If you look at the bandwidth that's going to be required for applications 10 years from now, going optical seems like a good idea," he says.

### Washington

Intel's lab at the University of Washington is developing what researchers call the System for Human Activity Recognition and Prediction, or SHARP, which is designed to predict human activity by observing the objects a person touches and the context in which they are used.

The research uses radio frequency identification (RFID) technologies and data mining software to gather physical information and infer human activity from it.

To test the concept, the university has developed an RFID-enabled glove called iGlove that reads information from objects that are embedded with RFID tags. Scientists hope to be able to accurately infer what an iGlove wearer is doing if they know what objects he touches and the order in which he touches them. That

kind of technology might be used by elder-care professionals to monitor the activities of older adults in their homes to infer the state of their health.

### Pittsburgh

The Carnegie Mellon Intel lablet is investigating software for widely distributed storage systems. Researchers working with Seagate Technology LLC are trying to enable interactive searching of terabyte-size collections of nonindexed data.

As part of that effort, researchers are studying how to speed up searches and make them more accurate by embed-

ding processors either close to or on storage devices so they can examine and discard irrelevant data close to the source.

Although Intel funds the labs, it doesn't own the intellectual property, and the research is widely shared and published, Teixeira says. Intel won't disclose how much it's spending on its university research projects, but its overall R&D budget is expected to exceed \$5 billion this year.

The real goal, Teixeira says, is to see if the labs can unearth something that Intel might then be able to take in-house and develop further.

"It's this notion of both helping to grow the technology and seeing where there is a usage for it within Intel," he says. **53154**

### ONLINE

For links to the lablets' Web sites, go to: QuickLink 53325

### FUTURE WATCH

## INTEL'S LABLETS

### SEATTLE

New technologies and usage models for ubiquitous computing environments.

### BERKELEY

Extremely networked systems — the very large, the very small and the very numerous.

### PITTSBURGH

Software for widely distributed storage systems.

### CAMBRIDGE

Networking, platform and development technologies to enable innovation in distributed applications.

SOURCE: INTEL RESEARCH

# Hi-Yo, Silver! Away With Lone Rangers

Staffers making unilateral decisions are one of the problems our security manager is confronting. By C.J. Kelly

FOR THE THIRD TIME in a month, I suddenly lost my network connection while working. This time, I jumped from my chair and fairly flew out of my office toward the area where the IT staff works. I wasn't the only one headed in that direction; I was third in line to speak to my direct reports.

"We are rebooting the primary switch," chirped the help desk technician.

"Why in the world are you doing that in the middle of a production day?" I gasped. I glanced around the room to identify the culprit and saw one of the guys with his baseball cap pulled down low over his forehead, looking intently at his computer screen.

Muttering an expletive, I turned on my heel and left. Behind me, I heard someone say, "The switch will be back up in a minute."

I have many years of experience with the Lone Ranger types. I know how they work.

It wasn't this particular fellow's first unilateral decision. Once, he decided to test replication software in the middle of the day and brought the network to a crawl.

On another occasion, he decided to reboot a file server—again, in the middle of a production day. And once he tweaked a production media Web server and then forgot to untweak it, causing the streaming media feeds to be inaccessible for two days.

I would've taken him for a walk in the parking lot to have a few words, but I had recently

learned that he carries a gun in his truck. In this state, you can carry a rifle as long as it's licensed and in full view. And one of my other direct reports showed me his concealed-weapons license the other day.

While the male chauvinism I have detected here is nothing new, this time there's a twist: an IT Lone Ranger who's actually armed.

So instead of confronting the Lone Ranger, I took the walk by myself and decided a shift in policy was needed immediately. It was obvious that we had

to institute a formal change-control process and implement some sort of network monitoring. I quickly put a change-control form together and e-mailed it to the team, adding it to our meeting agenda for the week.

## Switch Hit

The Lone Ranger sent me an e-mail explaining that we had been experiencing network congestion (don't ask me how he knew that other than his computer seemed slow) and that the only resolution was to reboot the switch.

I asked him to fill me in on his experience level with port mirroring, sniffing and traffic

analysis. No response. Just because he knows Windows 2003 Server doesn't mean he knows anything about networking. The problem is that he wants everyone to think he knows everything about everything, and that's what gets him in trouble, not only with me, but with his co-workers as well. They have had about enough of his ego.

I had observed that the IT staff isn't particularly networking- or security-savvy, but it's good with server administration and computer hardware.

I set about taking a quick look at the switches. I ran a quick HTTP session to each switch and noted the configuration. As I suspected, they had been brought up in default configuration, weren't password-protected and had no virtual LANs configured. And their SNMP community string had been left at the "public" setting. But it appeared that the switches could be easily configured for port mirroring. It would just be a matter of planning it out.

I had already managed to snag an extra desktop system, on which I was planning to install Red Hat's Fedora Core 3 distribution in preparation for configuring Snort, so this incident fit right into my plans. I needed a mirrored port to at least see some of the traffic on the LAN in the main office.

I would deal with the branch offices later. Ethernal would surely be a fine packet-capture tool for my purposes. But back to the immediate issues at hand.

**PROBLEM NO. 1:** The IT staff doesn't know how to troubleshoot network congestion other than rebooting switches. **Solution:** Set up port mirroring, attach a PC-based sniffer (the poor man's solution) and

teach IT staff how to do a crude level of traffic analysis.

**PROBLEM NO. 2:** The Lone Ranger mentality. **Solution:** Institute a change-control process that precludes midday reboots of servers and network equipment.

**PROBLEM NO. 3:** No network security visibility. **Solution:** Install and configure Snort as an inexpensive way to do some level of intrusion detection.

**PROBLEM NO. 4:** The IT staff needs training and mentoring. **Solution:** Don't implement the solutions to problems Nos. 1, 2 and 3 myself. Define the problems as projects, assign a resource or two, and allow the staff to learn while implementing.

Last, but not least, **PROBLEM NO. 5:** Male chauvinist pigs.

I have been in IT for over 15 years. When I started out, I was the only female IT person in my division. I lived through the worst of it, including the pat on the head, the pat on the behind and the hand slipping up my skirt at a company luncheon. I have been passed over for promotions and have been paid less money than all the guys. I have been told that I was too cute to be in IT, that I must be competing with my father (must have been a Freudian influence there), that I wasn't technical enough and that I wasn't educated enough.

I've heard it all and experienced it all, and now I've got all the degrees and certifications you can cram after your name, lots of experience and 10 years of managing, hiring and firing people. I have consulted and charged the big bucks. Along the way, I married twice and raised four of my own children and two children by marriage. I now have two beautiful grandsons.

So, the solution to Problem No. 5: Ignore it. ▀

## WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at [mcjkelly@yahoo.com](mailto:mcjkelly@yahoo.com), or join the discussion in our forum: [QuickLink.1590](http://QuickLink.1590)

To find a complete archive of our Security Manager's Journals, go online to [computerworld.com/secjournal](http://computerworld.com/secjournal)

## SECURITY LOG

### More Phishing, Fewer Bots

Symantec Corp. has reported that incidents of online identity theft scams, also known as "phishing" attacks, skyrocketed in the second half of 2004, as did spam and new software vulnerabilities. But other Internet blights, such as zombie networks of compromised computers, or "bots," declined. The number of phishing e-mails intercepted by Symantec grew 300% from July through December, while spam traffic increased by 77% and reports of serious software vulnerabilities grew by 13%, according to the Symantec Internet Security Threat Report. Online fraud may be driving many of the trends, as attackers turn to identity theft strategies, said Alfred Huger, senior director of engineering at Symantec Security Response.

### New Phishing Approach Spotted

The rate of innovation in phishing has been underlined with the discovery by U.K. security company Netcraft Ltd. of an attempt to hijack a Web site frame on a legitimate banking site. The target was the online log-in of Charter One Bank. In contrast to cross-scripting techniques, where whole pages are hijacked by bogus sites, the new "cross-frame" scripting approach is able to inject content onto a real Web page, making it extremely difficult to detect.

### SSH Secures File Transfers

SSH Communications Security Corp. announced products for upgrading unsecured FTP connections. The SSH Tectia secure file-transfer products, to be available this summer, build upon the existing Secure File Transfer Protocol functionality of SSH's Secure Shell technology. The company says they're suitable for even the most demanding and throughput-intensive file transfers.

SECURITY  
MANAGER'S  
JOURNAL



There's a twist: an IT Lone Ranger who's actually armed.



## BRIEFS

## Microsoft Upgrades ERP Software

■ Microsoft Corp.'s Business Solutions Group last week announced enhancements to Version 8.0 of its Great Plains ERP software. They include new business intelligence, grant management and budgeting capabilities, according to the company. Microsoft has also added an Extender Module to enable users to modify data entry windows and add fields in their interfaces. The enhancements will be available by April. The new modules will start at \$625.

## Xirrus Announces Wireless LAN Array

■ Xirrus Inc. in Westlake Village, Calif., has announced its Wireless LAN Array, hardware that's designed to offer the functionality of a WLAN switch and up to 16 access points in a single device. It provides up to 864Mbit/sec. of radio frequency bandwidth to over 1,000 clients, said Xirrus. Evaluation units are now available with general availability in May.

## Cloakware Ships Password Software

■ Cloakware Corp. is shipping Cloakware Server Password Manager. The software lets users process IDs and change passwords as frequently as needed without having to use scripts and custom applications, according to Vienna, Va.-based Cloakware. The software, including licensing and services, starts at \$150,000.

## RedDot Releases Content System

■ RedDot Solutions Corp. in New York has unveiled RedDot Content Management System 6.1. The application has simplified drag-and-drop functions and enhanced editing tools, said RedDot. It also allows users to instantly see edits made to their Web pages. Pricing begins at \$55,000, and the product is available now.

DOUGLAS SCHWEITZER

## Be Prepared for Cyberterrorism

**D**URING A RECENT Gartner conference, Robert Gates, formerly a director of the CIA and currently the president of Texas A&M University, warned attendees that companies must prepare for terrorism in all aspects of business. He also asserted that the three big threats to business today are terrorism, global organized crime and economic espionage.

According to the U.S. Department of Homeland Security's definition, acts of terrorism range from threats

of terrorism, assassinations, kidnappings, hijackings, bomb scares and bombings, and cyberattacks to the use of chemical, biological and nuclear weapons. While any one of the aforementioned events could have a dramatic effect on the integrity and availability of your valuable information assets, the threat of cyberterrorism should be taken particularly seriously.

"Within the past several years, the U.S. has been the target of increasingly lethal terrorist attacks, which highlight the potential vulnerability of our networked systems," Keith Lourdeau, deputy assistant director of the FBI's Cyber Division, said in testimony before the Senate Judiciary Subcommittee on Terrorism, Technology and Homeland Security in February 2004. "These attacks were carried out by terrorists wanting to harm U.S. interests in order to forward their individual cause. Our networked systems make inviting targets for terrorists due to the potential for large-scale impact to the nation."

Lourdeau further pointed out that vulnerabilities to our networked systems can be attributed to a number of factors and that threats originate from a number of sources. These include easy accessibility to those systems via the Internet; the wide availability of tools that can be used maliciously by anyone with a point-



DOUGLAS SCHWEITZER is an Internet security specialist. Contact him at dschweitzer@usa.com.

and-click ability; the globalization of our nation's infrastructures, which increases their exposure to potential harm; and the interdependencies of networked systems, which make attack consequences harder to predict and perhaps more severe.

This is where incident management and business continuity come into play. A computer security incident is considered to be any

event wherein some aspect of a computer system is threatened. Such incidents include the loss of data confidentiality, disruption of data or system integrity, or disruption or denial of availability.

Planning for business continuity includes being prepared for a variety of threats: viruses, hack attacks (originating both internally and externally), industrial espionage, denial-of-service attacks, unauthorized access to systems, hoaxes and fraud. Advance planning for such threats has, for many organizations, required the investment of massive numbers of man-hours and enormous financial infusions.

Nevertheless, many businesses remain insufficiently equipped to deal with cyberterrorism because they have failed to understand the nature of threats, or they simply don't have the employees with the appropriate skills or technical

expertise to combat those threats.

While some incidents are easy to plan for ahead of time, others present more of a challenge. For example, the loss of a building is something that the organization can't easily prepare for. The primary requirement at a business level is to continue working, making the loss of a building the ultimate business-continuity issue.

"The only difference between a hurricane and a terrorist attack is intent; the results are the same," says Interpact Inc. President Winn Schwartau. And he's right, it doesn't matter if the building is destroyed by a bomb or a natural disaster. Companies need to deal with the consequences of any incident before they can think about causes and motives.

When preparing for cyber or terrorist attacks, keep the following tips from the DHS in mind:

■ Be prepared to do without services and equipment that you normally depend upon and that could be disrupted — electricity, telephone service, Internet connections, natural gas, gasoline pumps, cash registers and automated teller machines.

■ Be prepared to respond to official instructions if a cyberattack triggers other hazards. For example, you may have to evacuate if hazardous materials are released, there's an incident at a nuclear power plant, or dams or flood-control systems fail.

Organizations must prepare for cyberthreats with a systemwide approach that unites the physical, operational and human aspects of the enterprise. From obvious tasks like adopting effective password policies and installing firewalls to more involved jobs like protecting open entry points and reducing unnecessary and unprotected server areas, the entire organization must ultimately remain vigilant to thwart cyberattacks.

☎ 53335

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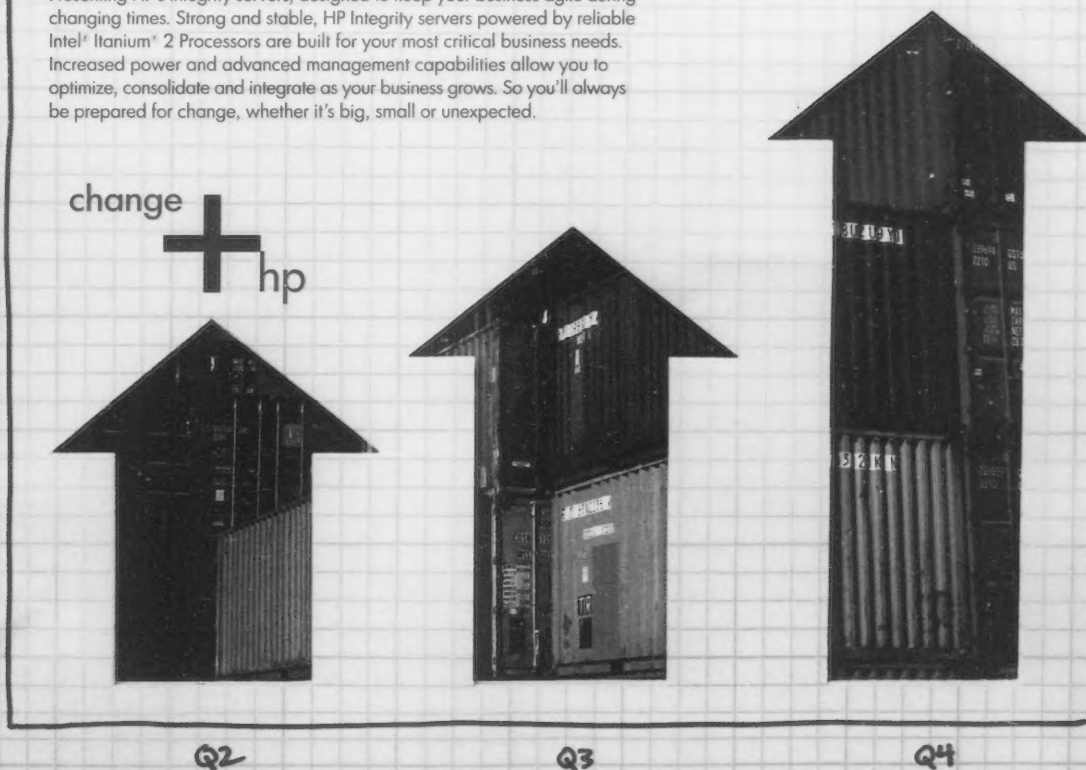
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# MANAGEMENT

03.28.05

## Q&A

### What Great Managers Do

Too often, leaders get the limelight and managers get no respect. But leadership consultant Marcus Buckingham says that managers aren't just leader wannabes; they're the catalysts in your company. **Page 52**

## OPINION

### Memo to the CIO

David L. Burkett sounds off on behalf of every senior technician who's sick of being used as a personal propeller head by a CIO who can't follow his own rules. **Page 54**



### Tricks of the Trade

Project management veterans offer some tried-and-true, low-tech tactics for keeping your team and your IT project on track. **Page 47**

**A**ELERA CORP. CEO Dustin Crane traveled to China, India and Armenia in a quest to buy or start up an offshore IT services company. After six months of searching, he returned to the U.S. and set up operations in the coastal city of Savannah and the smaller town of Fitzgerald, Ga., population 8,758.

McKesson Corp. CIO Cheryl T. Smith estimates that the \$8 billion pharmaceutical distributor is saving \$10 million annually in salary costs — a percentage of which is reinvested in IT innovation — after relocating its primary data center and about 75 IT jobs from San Francisco to Dubuque, Iowa.

Mattel Inc. CIO Joe Eckroth figures the cost of outsourcing certain Web-based software development to IT professionals at Rural Sourcing Inc. (RSI) in Jonesboro, Ark., is about a third of what he'd pay a comparable IT services firm in a major metropolitan area.

Welcome to the ever-so-nascent world of rural IT sourcing. Both large and small companies are tapping into a highly skilled but often underemployed IT workforce in lower-cost rural areas — frequently as an alternative to shipping work overseas.

"The IT professionals are coming out of some very good universities that just happen to be in rural areas," says Gary Hart, vice president of global outsourcing at Irving, Texas-based Optimal Solutions Integration Inc., which, like Mattel, has contracted IT work to RSI.

The cost of living, and therefore the cost of salaries, is a fraction of those in San Francisco, New York or Chicago, Hart says. Moreover, there are no significant time-zone or cultural issues. "There's not much difference between my Texas accent and the one you get in Arkansas," he adds. "On every level, it makes sense."

### Staying Home

Kathy Brittain White certainly thinks so. White, former CIO at Baxter Healthcare Corp. and Cardinal Health Inc., invested \$2 million of her own money to launch RSI in Jonesboro, home of her alma mater, Arkansas State University.

White says the idea for RSI came while



RSI EMPLOYEES Molly Marshall, Henry Torres and Leodis Williams were able to find jobs in IT without leaving their rural communities.

JACK KENNER

IT outsourcing options sprout up across rural America. **BY JULIA KING**

# HOME Grown

she was still at Baxter, which had launched a virtual IT internship program at ASU. University computer science students were given network and systems access to work 12 hours a week on live IT projects at Baxter. "The goal was when they graduated to move them to Chicago," she says.

But it didn't take White long to realize that most of the former interns didn't really want to leave Jonesboro if they could find meaningful work there.

After retiring from Cardinal in 2003, she launched RSI, which now has facilities in Magnolia and Monticello, Ark.; in Greenville, N.C., on the campus of East Carolina University; and in Portales, N.M., on the campus of East New Mexico University. Another facility is planned for Beckley, W.Va., which has 11 universities nearby.

"It's like coming full circle," says White, who grew up in the Arkansas town of Oxford, which has a population of 642.

"We're going to hire talented people and sell IT services. The twist is we're doing it in areas where others are not. We're going into areas where there's a strong university and good quality of life, where many people would have stayed if they could find a job," she says.

For IT services buyers, she says, the rural business model translates to lower er costs.

In every location, RSI takes a salary survey and then finds the midpoint, she says. "We are targeting a blended rate of \$40 an hour for the work we're doing," White says. "There are a lot of customers that feel that's very competitive, and in some cases, it's less than what they can do the work for internally."

Other RSI customers include Sarnoff Corp. and Cardinal Health.

Mattel's Eckroth, whose company also uses offshore IT services, says there are certain types of collaborative work where rural sourcing makes much more sense than sending the jobs offshore. For example, Mattel had RSI work on some very complex software applications involving marketing and content creation, and the project required close communication because of dynamically changing requirements. "We were very successful in that relationship," he says. "You can pick up the phone and get them anytime."

Ken Behrandt, president of Eagle Creek Software Services in Deephaven, Minn., which specializes in CRM software implementations, expects to create 200 to 300 IT jobs over the next three to five years at Eagle Creek's

## THE NUMBERS

An IT professional in San Francisco earning \$100,000 annually would need to earn the following amounts to maintain a similar standard of living in these rural areas:

Savannah, Ga.	\$50,693
Jonesboro, Ark.	\$39,506
Portales, N.M.	\$37,517
Fargo, N.D.	\$40,374

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new Siebel Project Center in Valley City, N.D. Many of those jobs will go to graduates of Valley City State University (VCSU), which has created a CRM track that includes an academic course in Siebel Systems Inc.'s CRM software. Students can also complete a two-semester internship at Eagle Creek, whose customers include Cadbury Schweppes PLC, Citibank NA and The Hartford Financial Services Group Inc.

The academic program's recently recruited instructor, Sue Pfeifer, is a 10-year IT veteran. She's taking a 33% cut in pay from her job as a lead software engineer in the St. Paul/Minneapolis area to return to North Dakota, where she grew up and went to college.

"We've always watched for opportunities to go back to North Dakota,"

Pfeifer says. A one-third pay cut is significant, she acknowledges, but she points out that housing and day care cost at least a third less in Valley City than they do in Minnesota. Moreover, her family is in North Dakota.

"Many North Dakotans want to stay, but they can't find the right job," says Behrandt. "Our goal is to build a project center that supports that goal. People can stay in North Dakota, or we'll move them" back, he says.

Salaries will range between \$30,000 and \$75,000, with the norm in the \$45,000 range, he adds. This compares with an average annual statewide salary of \$22,000.

VCSU President Ellen Chaffee says the university intends to expand its IT curriculum beyond Siebel skills. "We talk to corporations who are hiring in IT and ask what their entry-level skills and experience requirements are so we can tailor our curriculum for our graduates to have those skills," she says. "One of our stated goals is to keep jobs in North Dakota."

## Win-Win Scenario

Creating IT jobs in Georgia, rather than following through on its original plan to take them offshore, has afforded Aelera several business advantages, including contracts with state agencies for the business process outsourcing services its facility in Fitzgerald provides. "The play for us was to work

**"We're going into areas where there's a strong university and good quality of life, where many people would have stayed if they could find a job."**

KATHY BRITTAIN WHITE, FOUNDER  
RURAL SOURCING INC.

with the state's economic group to keep jobs within the borders of the state, and we've had a very warm reception," Crane says. The main reason: "For every dollar [in salary] you keep in Georgia, it turns into \$7" as it moves through the state economy, he notes. Keeping the work in rural areas is also saving the state a bundle, Crane says, noting that "compared to the Atlanta market, which is where our customers are, we can offer between 20% and 35% cost savings."

Users and service providers also emphasize that there is absolutely no shortage of skilled IT personnel already living in rural areas or wanting to relocate for the right IT job.

Smith says she had no problem recruiting the IT skills McKesson needed for its data center in the heartland. "The level of expertise McKesson was able to attract to our core operations center in Iowa has been excellent. We received many hundreds of résumés for the newly opened positions from all over the U.S.," she says. "We learned that it was typically a quality-of-life issue for them and their families."

IDC analyst Barry Mason agrees that the skills and capabilities of IT personnel available in rural areas match those of IT workers in major metropolitan areas. The drawback, he says, is that for now, there just aren't enough of them.

"The companies doing rural sourcing right now are very small. They don't have the scale to compete with offshore outsourcers like Wipro or a domestic outsourcer like IBM," Mason notes. "If they were to sign a large contract, I'm not sure they could sign the number of employees needed in those [rural] geographies." But, he adds, "for something like project-oriented work, it has more potential."

The bottom line: "At this point, rural sourcing is a very small market," says Mason. "But we'll keep our eyes on it. It's a good idea in theory and might work on a small scale." **53105**

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# Roots

**RSI FOUNDER** and President Kathy Brittain White is no stranger to the community of big-company CIOs. That's perhaps the biggest reason why Mattel CIO Joe Eckroth was willing to take a chance on White's new rural IT services venture.

"Kathy is a smart businesswoman, and she has put a tremendous amount of passion behind rural sourcing. As a former CIO, she also has been there, done that, so she gets it. She knows what it's going to take," he says.

White says she has had no problem attracting skilled and experienced

technology professionals to RSI's comparatively remote rural locations. "When we ran our first ad, we got over 100 résumés in a week from people in 20 different states and Australia, and they all had ties to Arkansas," she says.

As RSI grows from its current base of 50 employees to hundreds in several locations, White plans to establish business process centers of excellence in certain locations. The Jonesboro, Ark., site, for example, will

specialize in IT related to supply chain activities "because I have people here who worked at Wal-Mart," she notes.



WHITE: RSI had no trouble finding IT talent.

White's approach is a practical blend of idealism and realism. "We need to be profitable to be able to expand," she says. "But I'm not in this to do an

IPO. My goal is to be in many locations and be a catalyst for economic development in many rural areas, and hopefully, to change people's lives."

— Julia King



Some of the best IT project management techniques are decidedly low tech.  
By Mary Brandel

**V**ENDORS WILL TELL YOU that great project management is all about the software you use. Consultants will say it's all about the methodologies you employ. But project managers themselves often attribute their success to odd little tactics that have nothing to do with technology, methodology or even Project Management Institute certifications.

Here are some deceptively simple tricks of the trade that veteran project managers use to keep their teams motivated and their projects on track.

### Detoxify Negative Environments

Let's face it: Project teams can be cranky. But when crankiness evolves into a toxic environment that threatens to block progress, the project manager needs to take action.

Catherine Tomczyk, project manager at First Data Government Solutions Inc. in Greenwood Village, Colo., uses a technique she learned years ago when she was running the maintenance department of a power plant. "I never worked with a group

that was so unhappy all the time," she says.

One day, after a staff meeting, Tomczyk had had it. She handed out pink index cards to every member of the staff and told them to write down the best thing that happened to them in the past week. "Some people sat there thinking for 45 minutes," she recalls. "One of them wrote, 'I had lunch today.'"

The next day, Tomczyk established a new policy: The cards were to be filled out daily. "I started getting descriptions of sunsets or things like, 'I sat with my daughter and watched a movie last night,'" she says. "They actually started looking forward to writing down their happy thoughts every day." As a result of thinking more positively, Tomczyk says, the team became more energetic and proactive. "It takes time, and you have to be persistent, but there's a way to change the attitude of the whole team," she says.

### Schedule Collaboratively

Give a lethargic team an energy boost by actively involving them in project scheduling, says Johanna Rothman, president of Rothman Consulting Group Inc. in Arlington, Mass., and a longtime project manager. To do this, you first have to separate the project plan from the project schedule, she says. "The plan is something the project manager needs to get started, and it tends to stay intact," Rothman says. On the other hand, "the schedule should be collaborative; it belongs to the entire team."

Then consider trading in computer-based scheduling for something as low tech as yellow sticky notes. "If you do it in electronic form, it's hard for others to see. They're standing over your shoulder, breathing down your neck," Rothman says.

Putting the schedule on a wall by means of yellow stickies makes it easier to discuss and change things. It literally shows gaps where parts of the schedule are unknown, and it's easier to show iterations than with electronic project management tools. Not least important, it gets people on their feet. "It's a different level of energy than when everyone's sitting around yawning and the project manager is at the computer, typing as fast as he can," she says.

### Make It Visual

Human beings are very visual. If people don't see something, it's easy to believe it's not really there. So when it comes to deadlines and tracking project progress, it's best to post this information, and the bigger and more prominently located, the better, says Gopal Kapur, president of the Center for Project Management in San Ramon, Calif.

And when posting the project's finish deadline, use a date that's at least 10% earlier than the actual one. "If the date is 100 workdays ahead, your project should be scheduled to finish in 90 workdays," he says. "The 10% margin is for reacting to unknowns."

It's also useful to post the status of the critical path for all team members to see, since more eyes on a problem means more potential solutions. "Open awareness of any problems often leads to cohesive teamwork to solve them," Kapur says.

You can turn a posting site into an interactive project dashboard, Rothman says. Set up a whiteboard and organize it so that team members can update which phases various modules are in, how things are going and necessary next steps. "This is particularly

good in the testing phase of the project, when people are saying, 'Is it done? Is it done?'" Rothman says. "It's something people can look at in a moment and say, 'Oh, that's where everything is.'"

Make the whiteboard big, she suggests, so people can provide plenty of detail. "You need to be able to write big, erase, circle things, make a star next to something. People get excited, and you want them to be excited," Rothman says. A whiteboard can reflect the fluidity of a project much better than a status report can, she says, and it enables people to see what's being accomplished or not getting done.

### Get Away

Whether things are going well or poorly, you need to get project teams out of their cubicles. "We spend all our lives in cubicles doing work for other people, and we forget that we can be more efficient if we get together with those people in a structured way," says Virginia Robbins, CIO and managing director at Chela Education Financing in San Francisco and a Computerworld columnist.

In December, Robbins planned a year-end trip for 17 people in Chela's San Francisco headquarters to have dinner, a staff meeting and a full tour of the company's Arizona division. Even people who had worked in the Arizona location for two years took the tour — and benefited from it. "In some cases, people had been working nine months on a project but had never met each other," she says. At the end of the tour, one of Robbins' managers commented that he finally met a user he had been working with for six months. "Once a voice becomes a person to you, inevitably there's better communications," Robbins says.

Robbins has hosted other get-togethers, such as a planning session where marketing presented its year-end plans to IT. The event was intended to smooth over problems that had arisen because of marketing's tendency toward last-minute deadlines. "It allowed them to sit in each other's chairs and understand why they need that kind of flexibility," she says.

One caveat: These types of get-togethers have to be structured in order to be meaningful, Robbins says. "You need to be sure the meeting ends up on a positive note." ☛ 53112

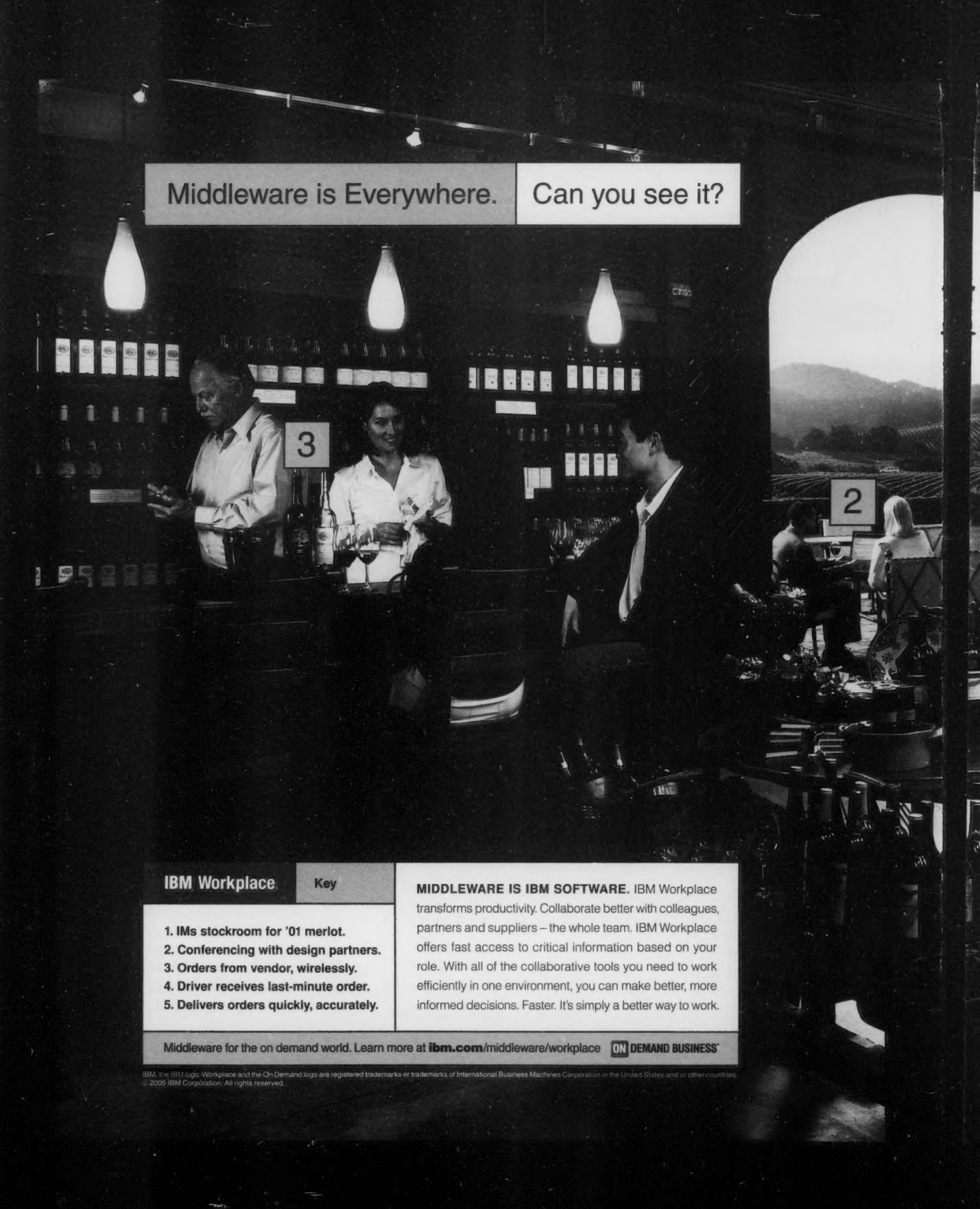
Brandel is a Computerworld contributing writer. Contact her at [mary.brandel@comcast.net](mailto:mary.brandel@comcast.net).

## Ignore at Your Peril!

The Center for Project Management says these are the five most ignored project management rules:

- 1 Say no to half-baked and hare-brained ideas and impossible deadlines.
- 2 Confirm alignment of each project to the business strategy, or kill it.
- 3 Don't hide bad news. Acknowledge problems, assess problems, and work with the team to solve them.
- 4 Shield team members from petty politics and distractions so they can focus on their tasks.
- 5 Celebrate success. Plan a few victory celebrations to highlight the project's progress, importance and value.





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**Q&A** What do great managers do? Just about the opposite of what great leaders do, according to Marcus Buckingham, a consultant on leadership and management and author of several books, including *First, Break All the Rules* (Simon & Schuster,

1999). In this month's Harvard Business Review, Buckingham draws on years of research to show how great managers get their people to perform beyond expectations. He told Computerworld's Kathleen Melymuka that it all comes down to chess vs. checkers.

Managers get so little respect. They're treated like leader wannabes who haven't made the grade. What's the real difference between those roles? Both are really important roles and really, really different. The job of the leader is to rally people toward a better future. It's externally focused, optimistic, ego-driven. Leaders see the present, but the future is even more vivid to them. The key skill is to cut through individual differences and tap into those things all of us share: fear of the future and the need for clarity.

The role of the manager is very internally focused: to turn one person's talent into performance; to ask, "Who is the person? What is his or her unique style of learning? What unique trigger must I squeeze to get the best out of him?" The challenge is to find what's unique and capitalize on it. It's really different but hugely important in a company. It's a role that's been undervalued.

People think of managers as leaders in waiting, but these are two very different abilities. The manager's role is catalytic. A great manager speeds up the reaction between the talent of people and the goals of the company. When that role is not valued, reactions are slowed down. If you want to know the future of a company, look at the quality of the managers.

**"Average managers play checkers while great managers play chess. What do you mean by that?"** In chess, all the pieces move differently; in checkers, they all move the same. Many IT managers would love it if all programmers thought alike, but a great manager knows that's absolute bunkum. A great manager figures out who's the knight, the queen, the pawn. He coordinates all those very different abilities and contributions into the service of the overall plan. He builds a team out of individuals.

# WHAT GREAT MANAGERS DO

Managers are not leader wannabes, says **Marcus Buckingham**. Their job is totally different and crucially important.

## Can you give me an example of how an IT manager might play chess with his staff?

Great managers talk about strengths — not things you can do well, but things that strengthen you. They're appetites as much as abilities — things you're drawn toward. A weakness isn't something you're bad at; it's something that drains, bores or frustrates you. An IT manager ought to be able to find out, for example, that this person loves to pull together and stay till midnight to meet that deadline. That urgency, passion, camaraderie makes him feel alive. Others need to go step by step and see the timeline and stick to it very religiously — never get behind the eight ball.

In the IT world, where it's "Do it for

me yesterday," it's pretty important to know which of your people love that pressure and which are drained by it. If crunch time weakens you, you can't learn to love it. You can do it once or twice and then you'll quit — psychologically or physically.

**You say this kind of management introduces a good kind of disruption into the workplace. Can you explain?** When you don't think of a pawn as waiting to become a queen, but as someone with a unique way of looking at the world, then you can be open to the insight a pawn has. You can think of each job as having a certain expertise and help people extend their contribution. Take someone on a help desk. The insights that can come from a

really expert help desk pro — about what clients are really looking for, how the system works, where the bugs are — are the most valuable intelligence a company can collect.

A healthy amount of disruption also means new areas of prestige. Most companies have very little prestige, and a few at the top have it and lots at the bottom don't. Much better to have many alternative avenues toward respect and prestige.

**How might an IT manager learn a staff person's strengths?** Many ways. The most direct is to ask people: "What was your best day at work in the last three months? What were you doing, and why did you love it? What have you learned quickly?" Strengths are almost always picked up fast; it's as if you already had it in your head. Strengths are satisfying. "What's your greatest satisfaction at work? What do you love to do?" Watch to see what people are drawn to. Managers more often focus on weaknesses, but great managers know that will get you incremental improvement. If you invest in strengths, you get exponential improvement — a much better return on investment.

**A manager also needs to be able to trigger a person's best performance. How do you find that trigger?** Observe and ask, "What was the best manager relationship you ever had, and what made it so good?" Let them ramble for a bit, and you'll find out a lot. One of the best triggers is recognition, but people like different kinds: public, private, peers, customers. Ask, "What was the best recognition you've had?" Few managers bother to ask that question, so there's an endless giving of plaques to people.

**Finally, you write that a manager needs to understand a person's learning style. How do you do that?** Ask them, "When in your career have you learned the most, and why did you learn so much? In which classes did you learn the most and why? Which did you enjoy the most and why?" It's so much easier to do than to talk abstractly. Then take those three dominant learning styles [see sidebar at left] and say, "Do you think you're a doer, an analyzer, a watcher?" Use those three as keys. For most of us, one will dominate. Once you know their strengths, triggers and learning styles, you've got enough to start playing chess. **Q 52838**

This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.

## LEARNING STYLES

Research shows that there are three predominant styles of learning in adults. Staying attuned to your employees' preferred styles will help everyone perform better, says Marcus Buckingham.

■ **ANALYZERS** crave information. They love preparation and role playing. They take a task apart, examine the pieces and put it back together. They want to absorb all there is to know about a subject before they begin. They hate mistakes. Don't expect them to wing it; give them the time and the tools to prepare.

■ **DOERS** learn by trial and error. Preparation bores them. They want a quick overview of the desired outcomes and then they're good to go. Start them with a simple task and gradually increase the complexity until they've mastered their roles.

■ **WATCHERS** like to see the total performance so they can learn how each part relates to all the others. Formal education and preparation leave them cold. Let a watcher shadow a successful performer so he can see the big picture.



# Career Watch

## Offshoring's Effects: Mostly Hitting the Low End

You can't blame offshore outsourcing for U.S. IT job losses since the recession ended in late 2001. That's among the conclusions of economists Martin Neil Baily and Robert Z. Lawrence in an article in the most recent edition of *The McKinsey Quarterly*, titled "Don't Blame Trade for U.S. Job Losses."

Baily and Lawrence analyzed detailed trade and industry data to estimate the extent of job dislocation caused by offshoring in the manufacturing and service

sectors from 2000 to 2003. They found that, at most, about 274,000 software and business-process jobs moved to India from 2000 to 2003, or an average of about 91,500 positions per year. "Although the costs were substantial for the displaced employees," they write, "a job shift of this size is small compared with the 2.1 million service jobs created every year during the 1990s and minor compared even with the net annual job increase of about 327,000 from 2000 to 2003."

The authors say that employment in IT and IT-enabled occupations has been surprisingly strong in the past few years, with a "modest" decline after 2000 following the late-'90s dot-com boom and the Y2k surge of employment.

But they acknowledge that important shifts did take place in the mix of employment within computer occupations, with programmers and support personnel hit hardest.

At the higher end of the spectrum, they report, the number of U.S. software engineers and computer and network systems analysts actually rose, "thereby offsetting the loss" of computer-programming jobs.

—Liamie Eckle

### THE NUMBERS

#### Change in employment, by IT occupation, 1999-2003

Software engineers	181,270
Programmers	- 96,960
Computer and network systems analysts	96,270
Support specialists	20,150

SOURCE: THE MCKINSEY QUARTERLY, NO. 1, 2005

## How would you rate the value of an MBA in your business?

TheLadders.com asked that question in its February survey and got responses from 1,521 executives (not just IT executives) in the market for jobs paying over \$100,000. (See the Q&A with CEO Marc Cenedella on this page).



## Marc Cenedella



TITLE: President and CEO

COMPANY: TheLadders.com Inc., a New York-based executive search service for \$100,000-plus positions

## Q&A

■ To accurately gauge the IT spending environment, one need look no further than hiring within vendor sales forces. When vendors add salespeople — as they are now doing, according to Cenedella — it's usually a sign of a healthier IT spending environment.

■ Cenedella, a former HotJobs.com executive, founded TheLadders.com in July 2003. *Computerworld's* Thomas Hoffman spoke with him about the current hiring environment for IT executives.

What percentage of the positions posted on TheLadders.com are for IT executives? Each month it's between 1,000 and 1,600 new ones, or roughly 10% of the 13,000 new executive positions listed on the site each month.

## How's the overall market for \$100,000-plus jobs? Any particular types of jobs in strong demand?

We're seeing all major systems integrators, consultants and companies such as CA, Unisys and IBM beefing up their sales forces. There's big, big growth for enterprise software for financial planning; it's even outpacing the broader tech recovery. Flat-panel display and consumer electronics companies are booming and adding a ton of people.

Sales forces and marketing positions are all in big demand. The [technology spending] bust is over, and companies realize they need to beef up their teams to move product and meet demand. Tons of sales guys and high-level marketing people are being hired.

## How's the IT executive job market? Any particular regions with strong demand? I'd say it's strong. Even though technology spending isn't booming the way it used to, these companies are adding positions. We see hundreds of jobs from them each month. The strongest regions are northern Virginia, Dallas and Atlanta. In these areas, there's strong demand and local economic growth. Markets that aren't as fertile include New England, particularly Boston, and Seattle.

Some employment experts say that CEOs continue to stretch their existing workforces due to economic uncertainties, resulting in tight hiring for full-time IT workers. Is this true? We're obviously more focused on the booming hiring markets, so we're seeing a lot of hiring among enterprise software companies and systems integrators.

## Meanwhile, the Many Risks of Offshore Outsourcing

In a report called "Thinking Offshoring Through: A Framework for Decision Makers," The Conference Board says that half of all offshoring operations are destined to fall short of expectations and contends that unless corporate leaders address the full spectrum of offshoring challenges, underperformance will only grow.

In the report, a summary of an extensive study that the organization is releasing in installments over the next three months, The Conference Board says that many companies tend to fo-

cus on security risks when considering offshoring while ignoring a whole host of other risks, both at home and abroad, in the areas of reputation and brand, social responsibility, geopolitics, human capital, regulatory issues and legal matters. It says that any one of these factors can transform what had been attractive potential savings into a costly endeavor. The report recommends that companies that decide to send work offshore use a risk management framework to manage all of the risks effectively and conscientiously. ☎ 3089

## EXEC TRACK

Agilent Names  
Burdick to CIO Post

**RICK BURDSALL** has accepted the position of vice president and CIO at Agilent Technologies Inc., which was spun off from Hewlett-Packard Co. in 1999. Burdsall joined HP in 1991 as a product marketing manager in the semiconductor products group. He was appointed vice president of IT solution services in 2003. Before joining HP, Burdsall held positions in R&D, manufacturing and marketing at Magnetic Peripherals Inc., Lockheed Missiles and Space Co. and Avante Computer Ltd.

1-800 Contacts  
Picks Murray

**JOHN R. MURRAY** has been named CIO at 1-800 Contacts Inc., a provider of replacement contact lenses in Draper, Utah. Before joining the company, Murray served as vice president of information systems at First Health Group Corp. Previously, he was vice president of technical operations at Agency Works LLC.

Moreno to Head  
Snap-on IT Group

**JEANNE M. MORENO** has been appointed vice president and CIO at Snap-on Inc. in Kenosha, Wis. Moreno was most recently CIO at Citrix Systems Inc., and previously, she was CIO at BMC Software Corp. Snap-on manufactures and markets tools, diagnostics software and shop equipment for professional users of power and hand tools.

Burdick Chosen  
As OfficeMax CIO

**OfficeMax Inc.**, a provider of office products and services in Itasca, Ill., has named **RANDY G. BURDICK** CIO. Burdick previously was vice president of supply chain operations at HP's Compaq division. He has held management positions at Advanced Micro Devices Inc. and Harris Semiconductor.

DAVID L. BURKETT

## Memo to the CIO

**T**O: Tom Topdog, CIO  
From: Pete Peon, senior tech analyst  
Subject: A fish rots from the head down  
I'm writing this because the IT organization has become the laughingstock here at Amalgamated Widgets, and you are not the solution; you are the problem. We're out of control, and everyone knows it.

I must comment on the HP ColorJet incident last Friday. I was sitting at my desk, working on a project, when the phone rang. It was your administrative assistant calling for the second time that day. This time, he asked what I knew about color printers.

"A little," I said, having just set up a couple of desktops to utilize the newly installed departmental ColorJet.

Please understand that I'm a senior-level technician who is paid more than most managers in your organization. I'm not cost-effective as your personal desk-side propeller head.

"The CIO can't get the darn thing to print overheads," the admin assistant said. "Do you want to go two for two?"

I had dealt with your screwing up your password settings that morning. You were unhappy that I had suggested that you call the help desk, which routinely handles password problems and has the necessary security rights and access privileges to fix them quickly. You implied that I had somehow failed because I directed you to the appropriate support personnel. Perhaps you don't remember the bulletin you recently released emphasizing that all support requests start with help desk Level 1 personnel.

"OK," I replied, "I'll be over in a minute." I immediately walked the short distance to the printer. "So much

for using the help desk," I muttered.

What an interesting assortment of people had already assembled to help their CIO. Two IT vice presidents and a financial controller were huddled around the printer.

It seemed that they wanted to print some overheads for a Monday morning presentation, and, it being after 3:00 p.m. on Friday, they were

finally "going to press" on a newly installed machine none of them had ever seen before.

I had no clue as to how overheads should be loaded, and of course there was no manual to be found, so the most newly hired VP took charge. After a number of futile attempts, the solution was finally provided by the controller. "We'll take them to Kinko's," he said. That ended the problem as far as they were concerned.

This is one of the reasons our company's dividends don't ever seem to reach stockholders' expectations. Your IT leadership team can't or won't delegate anything, and particularly anything technical. And you exacerbate the problem by treating these "man-

agers" as your personal help desk.

I watch as they repeatedly involve themselves in nickel-and-dime technological minutiae, while their primary responsibilities go unfulfilled.

There is a mind-set among them that to be perceived as weak in any technological area would label them trailing edge and perhaps obsolete. I can infer only that the function for which they are paid is not interesting or engaging to them. If they want to be technicians, they should learn technology, but first they should know that a tech job doesn't usually pay nearly as well as a vice presidency.

This whole charade is a waste of corporate resources that occurs in almost every company I've been associated with, but it doesn't have to be this way. Managers should manage, and workers should work. It's called "division of labor," and it's been productive since the beginning of recorded history.

If your VPs are uncomfortable with hands-off management techniques, they are probably viewed by their staffs as meddlers, not real leaders. If they take every opportunity to engage their staffs in games of technological one-upmanship, they're obstructing your organization's progress. If they need to involve themselves in the myriad details of every aspect of the organization, they're likely insecure and unfit to provide mature leadership.

You and they need to learn how to differentiate between management, leadership and supervision. As CIO, you must establish the style of your organization and lead by example. Unfortunately, you ignore your own rules, you meddle, and you encourage your sycophants to do the same. It's unhealthy for the company, and it's driving your technical staff nuts.

53100

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DAVID L. BURKETT is principal consultant at Oak Business Services in Marshfield, Mo. Contact him at [David.Burkett@att.net](mailto:David.Burkett@att.net).

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## IT Careers in Financial Services

According to an IDC/Financial Insights report, "Top 10 Strategic Initiatives for U.S. Financial Institutions in 2005," the days of cutting costs must be left behind as financial institutions leverage acquisitions and technology to grow dollars. That's good news for IT professionals looking for new challenges and technology innovation.

Jeanne Capachin, one of the study's authors, says for IT professionals the most in-demand skills will surround security and compliance, but also intelligent, on-demand computing systems. "The institutions are looking from the front end to back office and using IT to create a more dynamic capability," she says.

The IDC/Financial Insights report forecasts investment of 4.8% of revenues on IT across financial services. Capachin defines five of the strategic trends as baseline maintenance to keep banks in the game. These include profitability and performance management (improving precision, consistency, timeliness), regulatory compliance and risk management, security and fraud management (controlling access and proper authorization for staff and customers), selective sourcing, and core system transformation.

Selective sourcing, according to Capachin, is a critical strategy that requires a careful balance between cutting costs and maintaining core strategic advantage. It involves identifying common processes across multiple businesses and determining where these can best be managed. If the process is outsourced, IT professionals will manage new,

innovative supplier relationships to avoid some major outsourcing bumbles. Capachin points to one instance in which a bank outsourced electronic processing. The supplier then exited the business, leaving the bank to come up with another solution.

The IDC/Financial Insights report also identifies strategies that are "standing on the doorstep". Financial services companies working these strategies will be able to leap ahead of competitors. The strategies include dynamic IT, new IT-enabled revenue sources, enterprise payment (to replace EDI), integrated multi-channel delivery systems, and intelligent interaction management.

Dynamic IT is technology capability that is scalable and diverse enough to respond quickly to market conditions. Intelligent interaction management will allow banks to respond to corporate and consumer clients in much the same way as successful online retailers, such as Amazon.com.

Another group, the Financial Services Technology Consortium, says the most critical efforts for the professional consortium this year will be in biometrics, check truncation, web services and phishing – the use of social engineering and impersonation to steal credentials of individuals to perpetrate a fraud.

All of these strategies represent complex IT skills and abilities found in highly advanced technology sectors. "One of the ah-hahs is that financial institutions will start looking

like other businesses. We'll see a lot more work in IT that enhances the brand versus processing checks," says Capachin.

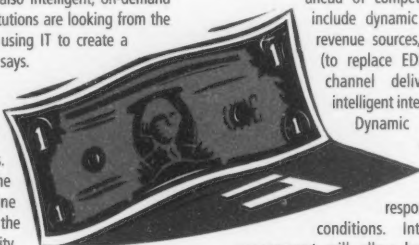
While some banks are hiring IT professionals in small numbers, (such as Bank of America or Fidelity Investments, which boasts of IT investments that are 15% of revenues), there are some banks with major hiring trends under way. JPMorgan Chase and Citigroup combined will hire approximately 1,000 IT professionals this year. The American Banking Association has job postings for more than 500 positions.

Brian Moore, JPMorgan Chase's head of executive recruiting for Technology & Operations, says the company always is in the hunt for "A" level players. With the acquisition of BankOne, JPMorgan Chase has assets of \$1.2 trillion and more than 90 million credit card customers. The company, according to Moore, has several major projects for the next two years, including large scale IT implementations, major systems conversions, and a merger-related project to install a new operating model for the company's global infrastructure.

To Capachin's point of financial services beginning to look like other economic sectors in use of IT, Moore says when recruiting, JPMorgan looks for a strong technology background and technology-related advanced education, "combined with experience in industry – not just financial but from any of the respected companies known for their superior technology and business processes."

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Produced by Carole R. Hedden



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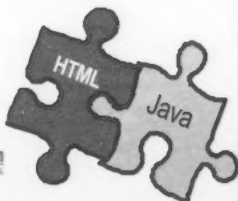
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One Speen Street, P.O. Box 9171  
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**PUBLISHER/CEO**  
Bob Carrigan  
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Nelva Riley  
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GENERAL MANAGER ONLINE**  
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**VICE PRESIDENT/  
NATIONAL ASSOCIATE PUBLISHER**  
Matthew J. Sweeney  
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**VICE PRESIDENT/  
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**CIRCULATION**  
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# How to Contact COMPUTERWORLD

We invite readers to call or write with their comments and ideas. It is best to submit ideas to one of the department editors and the appropriate beat reporter.

**Don Tennant,**  
editor in chief  
(508) 620-7714

**Mitch Betts,**  
executive editor  
(301) 262-8243

**Julia King,**  
executive editor, events  
(610) 532-7599

## DEPARTMENT EDITORS

**Craig Stedman,** News editor ..... (508) 620-8120

**Mike Bucken,** assistant News editor ..... (508) 620-8562

**Tommy Peterson,** Technology editor ..... (508) 620-7729

**Kathleen Malyuka,** Management editor ..... (508) 620-8118

## REPORTERS

**Matt Hamblen,** networking; mobile/wireless; networks/systems management ..... (508) 620-8567

**Heather Harenstein,** business intelligence; application development; Web services; application server software; health care ..... (919) 385-0381

**Thomas Hoffman,** IT management and investment issues; carriers/labor; energy industry ..... (845) 989-9630

**Lucas Marrian,** storage; disaster recovery and business continuity; financial services industry ..... (508) 620-8265

**Linda Rosenkrantz,** general assignment; transportation and automotive industries ..... (508) 628-4734

**Carol Siwa,** Windows, Linux ..... (508) 628-4731

**Marc L. Songini,** ERP; supply chain; CRM; databases; food and agribusiness ..... (508) 620-8182

**Patrick Thibodeau,** enterprise systems; Unix; outsourcing and immigration; antitrust issues ..... (202) 333-2448

**Jaikumar Vijayan,** corporate security/privacy issues; manufacturing industry ..... (630) 978-9393

**Todd R. Weiss,** general assignment; open source community; intellectual property issues; messaging/collaboration ..... (717) 560-5255

## OPINIONS

**Frank Hayes,** senior news columnist ..... (503) 252-0100

## FEATURES

**Ellen Fanning,** special projects editor ..... (508) 620-8204

**Robert L. Mitchell,** senior editor ..... (508) 620-8177

**Mark Hall,** editor at large ..... (503) 391-1158

**Gary H. Anthes,** national correspondent ..... (703) 536-9233

**Julia King,** national correspondent ..... (610) 532-7599

## COMPUTERWORLD.COM

**Martha Connors,** vice president/general manager ..... (508) 620-7700

**Ian Lamont,** online projects editor ..... (508) 620-8187

**Sharon Machila,** managing editor/online ..... (508) 620-8231

**Ken Mingia,** online news editor ..... (508) 620-8545

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**David Ramel,** e-mail newsletter/online editor at large ..... (508) 620-8269

**John R. Brillon,** associate art director ..... (508) 620-8216

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## ADMINISTRATIVE SUPPORT

**Linda Gergone,** office manager ..... (508) 620-8176

## CONTRIBUTING EDITOR

**Jamie Eckle,** Opinions ..... (617) 596-1873

## CONTRIBUTING COLUMNISTS

**Michael Gartenberg,** Dan Gilmore, Paul Gien,  
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**David Moschella,** Bart Perkins

## CONTRIBUTING WRITERS

**Mary Brandel,** Stacy Collett, Russell Kay,  
**Mary K. Pratt,** Drew Robb, Steve Uffelder

## GENERAL INFORMATION

### TELEPHONE/FAX

**Main phone number** ..... (508) 879-0700

All editors unless otherwise noted below

**Main fax number** ..... (508) 875-8931

**24-hour news tip line** ..... (508) 620-7716

### E-MAIL

Our Web address is  
[www.computerworld.com](http://www.computerworld.com).

Staff members' e-mail follows this form:  
[firstname\\_lastname@computerworld.com](mailto:firstname_lastname@computerworld.com).

For IDG News Service correspondents:  
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### LETTERS TO THE EDITOR

Letters to the editor are welcome and should be sent to:  
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## NetWare

infrastructure services manager at Comair Holdings Inc. in Erlanger, Ky. "I not only trust the Linux platform, but I really trust Novell's handling of the Linux platform."

Comair beta-tested Novell's new Open Enterprise Server (OES) software and began running it in production on one file server, using Linux, shortly after the product's March 10 release. Fenner said that Comair's IT team will soon begin making plans to migrate all of the company's 20 NetWare servers to Linux.

But W.W. Grainger Inc., a distributor of facilities maintenance products in Lake Forest, Ill., is content for now to move some of its Unix-based application servers to SUSE Linux. Migrating the company's NetWare servers to Linux isn't a high priority, said Dave Zeck, group manager of applications administrative services.

### 'Spot' Treatment

Darin Field, an IT programmer/analyst at Saskatchewan Government Insurance in Regina, said the Canadian insurer will probably stay on NetWare when it moves to OES in about two years. In the meantime, Field said, he expects to deploy Linux in "little spots" to test it out.

Novell has no further plans to release NetWare as a stand-alone product, said Ed Anderson, the company's vice president of platforms product marketing. But it will continue to update and support the NetWare kernel as part of OES, Anderson added.

Statistics compiled by Framingham, Mass.-based IDC show that NetWare's worldwide market share dropped from 13% in 2001 to 10.7% in 2002 and 8.1% in 2003. Figures haven't been released for 2004, but NetWare shipments likely declined again, said IDC

analyst Dan Kusnetzky.

Novell isn't relying solely on OES and SUSE Linux to offset the decline in NetWare sales. At BrainShare, the company said that next month it plans to ship a new version of its ZENworks suite, which will let users manage Windows desktops from Linux servers.

Novell plans to upgrade its GroupWise messaging software this summer, and it's also pushing its so-called identity-driven computing offerings.

"It's a little bit of a seed and harvest strategy," said Jon Oltisik, an analyst at Enterprise Strategy Group Inc. in Milford, Mass. "You get the SUSE base to grow, and you can up-sell them on some of the other products."

Novell appears to be making

headway courting some users of rival Red Hat Inc.'s Linux distribution. A retail chain based outside the U.S. that has more than 600 servers running Red Hat Linux plans to shift those systems to SUSE Linux by the end of June in order to reduce the number of vendors it has to deal with, said an IT manager there who asked not to be named.

He added that the retailer will eventually migrate its GroupWise servers and some network-edge servers from NetWare to SUSE Linux as part of a move from Dell Inc. systems to fault-tolerant IBM hardware. But first the applications have to become available for Linux on systems based on IBM's Power 5 processors, he said. **□ 53408**

## Novell's Product Road Map

**SUSE Linux Professional 9.3**  
**Due:** April

**New features:** Support for GNU Object Model Environment (GNOME) 2.10 and KDE 3.4 user interfaces; integrated firewall, spam blocker and virus scanner; improved Wi-Fi connections; support for Xen virtualization software and voice over IP.

**ZENworks 7**

**Due:** Second quarter

**New features:** Ability to manage Windows PCs from a Linux server; complete life-cycle management for Linux systems; policy-driven automation; asset management abilities.

**GroupWise "Sequoia"**

**Due:** This summer

**New features:** User interface im-

provements; support for Microsoft Outlook; new SOAP/XML interfaces to support integration with service-oriented architectures.

**SUSE Linux Enterprise Server 10**  
**Due:** First half of 2006

**New features:** Xen; enhanced Common Information Model for integrating with top management software tools; Unified Management Framework for keeping systems up to date on patches.

**Novell Linux Desktop 10**  
**Due:** First half of 2006

**New features:** Open Office 2.0; support for the latest versions of GNOME and KDE; search engine code-named Beagle that lets users find data stored on their hard drives.

## Novell CEO Predicts Backlash Against Microsoft

SALT LAKE CITY

*With NetWare usage continuing to decline, Novell made Linux and "identity-driven computing" the focal points at last week's BrainShare user conference here.*

*In an interview with Computerworld, Jack Messman, Novell's chairman and CEO, spoke about the software vendor's strategy and its efforts to court Windows users.*



**Q&A**

**It has been about 14 months since Novell acquired SUSE Linux. In what ways has the acquisition helped the most?** It allowed us to change the strategy of the company to focus on Linux and identity. We [already] had the identity products in the house. But we weren't being very successful knocking on doors and trying to talk about identity.

And now with Linux, we get in the door to talk about Linux, and then we tell them about our identity products and they say, "Oh, I didn't know you did that." A lot of people had sort of written Novell

off because they didn't know where the NetWare product-line migration was going to take us.

**You just released Open Enterprise Server, which combines NetWare and Linux.**

**How's the battle to offset the decline in NetWare revenue going?** Our [total] revenue's been flat, and that is a combination of the NetWare revenues going down and the other products growing.

We've been able to offset the NetWare decline. But with the OES product, if we can get that decline to zero or starting to grow [again], then we'll see a significant upside in our revenue growth rates.

**Many NetWare users migrated their file and print workloads to Windows. Do you think that you can get any of those customers back?** Yeah. The market went through a period where they wanted best of breed, and they knew that if they bought a best-of-breed product, they had to integrate it them-

selves. Then they got to the point where good enough was OK. And of course, many of the Microsoft things were good enough.

I think that this Linux thing is going to catch on. There's going to be a backlash against Microsoft. I think people are tired of the high prices, the licensing arrangements, the heavy handedness. And they want choice. I mean, choice is a very valuable commodity. In many cases today, we're finding that we are being used — we being Linux, not just Novell — by customers to get Microsoft to the bargaining table to talk about price.

**But you need to get them to convert, too. That's true, ultimately, but some of them will convert. Many people say, "Well, I don't want to switch from Windows to Linux. That's a migration. I don't want to do a migration." What they don't understand is down the road, they're going to have to migrate from Windows to Longhorn, and that might be a bigger migration than going from Windows to Linux.**

**What about the rumors that have resurfaced about Novell being an acquisition target?**

If somebody wants to make our shareholders a bid, then they have the right to do that. But we're not out actively looking to sell the company, not at this point. I mean, look at what we've got. We've got two good strategies going here.

**Novell's No. 2 executive, Chris Stone, left in November, and now Chief Technology Officer Alan Nugent is departing. What happened there?** It would be unfair to comment on a personal matter with Chris Stone or Alan. I like both those guys, but for whatever reasons, we had to part, and I can't say anything, by agreement with them.

— Carol Shliva

### MORE ON THIS TOPIC

**Online:** Read an expanded version of our interview with Jack Messman:

**QuickLink 53324**  
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**Also in this issue:** Departing Novell CTO Alan Nugent talks about his plans for the unicorn business unit at Computer Associates. **Page 6**

FRANK HAYES ■ FRANKLY SPEAKING

# Dumb Security

**I**S SYBASE'S MANAGEMENT well intentioned and dumb, or a crowd of control freaks who want to dictate to everyone — including Sybase customers — exactly what they're allowed to say about security? The question comes up after Sybase threatened to sue Next Generation Security Software Ltd., a security research company in England. Last year, NGS found a batch of vulnerabilities in Sybase Adaptive Server and notified Sybase. Sybase issued patches for the holes. So far, so good.

But now, NGS wants to publish details of the problem, as is its usual practice. And Sybase says that if NGS does so, Sybase will sue.

On what grounds? Sybase is reportedly pointing to its license agreement, which states in part: "Results of benchmark or other performance tests run on the Program may not be disclosed to any third party without Sybase's prior written consent."

Let that one sink in. Sybase is claiming that finding security holes in one of its products qualifies as a "performance test." Sybase executives know that's bogus. But it's the only clause in the license agreement that sounds even remotely like it could apply. And so far, the threat has worked; NGS has delayed publishing its report.

Wait, it gets better. Here's the start of Sybase's official statement about the NGS situation: "Sybase constantly strives to improve the security and functionality of its software. Sybase appreciates the efforts of its customers and companies like NGS who occasionally find issues which are brought to Sybase's attention."

Did you catch it? That's right — in talking about its threat against NGS, Sybase is specifically including any other customers who find problems with Sybase software too.

Sybase's statement goes on to say that the company is primarily concerned about the security of its customers and that "the company does not believe that publication of highly specific details relating to issues is in the best interest of its customers."

Which sounds very well intentioned. It also sounds very dumb.

After all, the bad guys already know the details of these security holes. They've likely already reverse-engineered Sybase's patches and developed exploit code. They're surely not sitting around waiting

for NGS's description of the problem.

Let's presume Sybase's patches work. Then for any customer who has applied them, the problem is fixed. And publishing the details of the vulnerability is a nonevent.

Except, of course, for customers who haven't applied the patches. Those customers are at risk. Every unpatched day is another opportunity for bad guys to attack them. If Sybase truly cares about the security of those customers, the vendor should be cajoling and nagging and harumphing and doing whatever it takes to make sure the patches are applied and those security holes are history.

That's the smart thing to do. It actually solves the problem. But it also reminds Sybase customers that there was a problem to begin with.

How much easier to threaten a lawsuit against the security outfit, and hint that any customers who find security holes and make them public could get the same treatment, eh?

That must have sounded awfully clever to someone in Sybase management. It's not. Security-by-obscurity is dumb. A mangled reading of license terms is dumb. Gratuitously dragging customers into lawsuit talk is very, very dumb.

And nobody wants a dumb software vendor. Greedy? That comes with the territory. Likely to dodge blame for problems? We expect that. Willing to strong-arm customers? We can even live with that, so long as the vendor convinces us that it's smarter than we are.

But threatening customers, misreading license terms and suing security people who are looking out for Sybase's customers? That doesn't sound smart. Or even well meaning.

Just dumb. ☎ 53378



FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at [frank\\_hayes@computerworld.com](mailto:frank_hayes@computerworld.com).

## What's in a Name?

State agency's data warehouse project is renamed: It's now officially an "administrative systems reporting database." Why not just call it a data warehouse? "Several legislators threatened to block the project if the warehouse wasn't constructed within their own districts," grumbles on-scene pilot fish. "All attempts to explain that no physical structures would ever be built fell short. The lawmakers had never heard of a warehouse without a building somewhere."

### Hold It!

This entire plant suddenly grinds to a halt. "Security, lighting, electricity, hydraulics and air handlers are down," pilot fish reports, and the plant's industrial-control computer appears frozen. Then fish notices that the logging printer is out of paper. Paper is added — and the plant is back online. But why? Seems the logging system has a buffer to record data when the paper runs out, and that buffer filled up. "Rather than lose valuable data," says fish, "the system gracefully shuts down and refuses to come online unless the buffer is cleared."

### Thanks, Boss

Contractor pilot fish is called into a meeting with his boss and the client, but the conference room's computerized whiteboard isn't working. Fish's take-charge boss examines the wireless keyboard, announces that its batteries are dead and sends fish to get new batteries. "He puts them in," says fish. "Still doesn't work. He tinkers with it, then declares it's broken, and the two bosses leave for a differ-

ent meeting. I check the batteries. They were put in the wrong way."



## Drag and Drop Off a Cliff

Why did this company's network just slow to a crawl? It takes pilot fish an hour to track down the cause. "Someone using Windows Explorer was supposed to be moving a file from one server to another using drag and drop," says fish. "He moved our Process directory instead — containing 12,000 subdirectories and a large number of gigabytes of data. And once the problem was discovered, of course, all the data had to be moved back using the same process."

### Where Else?

Sysadmin pilot fish knows the new version of his clinic's medical-records software is buggy, so he starts quizzing users about what's wrong. "Apparently, I didn't word my question very well to one user," says fish. "When I asked, 'Where were you when you locked?' she answered, 'Standing at the front desk, checking in a patient.'"

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